Track, B&B men told new concepts needed

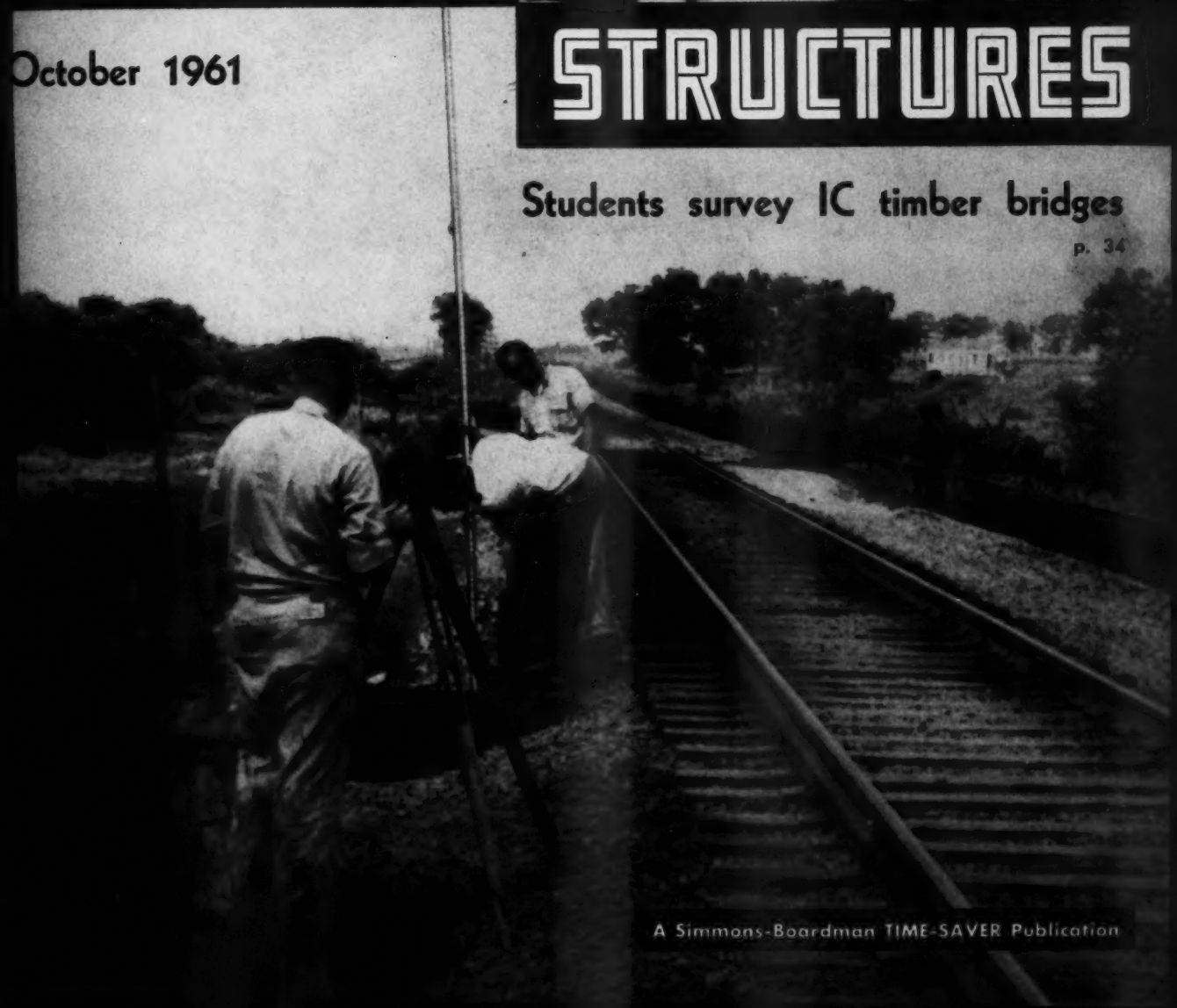
p. 25

ilway TRACK and STRUCTURES

October 1961

Students survey IC timber bridges

p. 34



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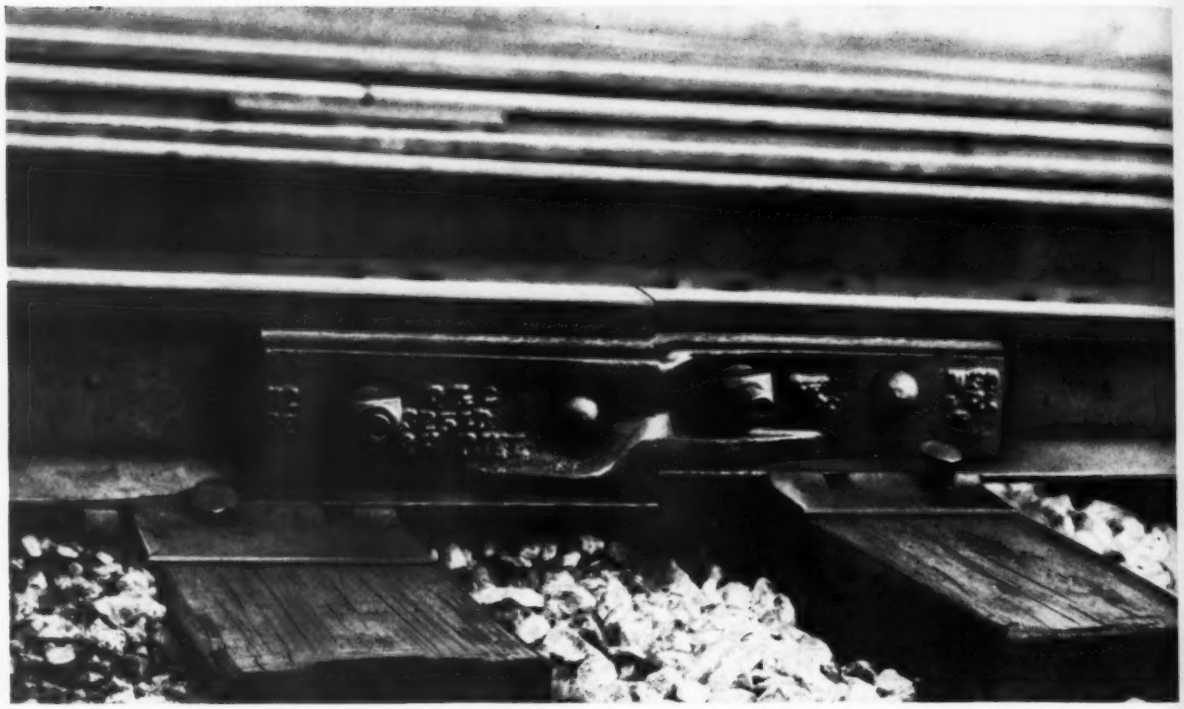

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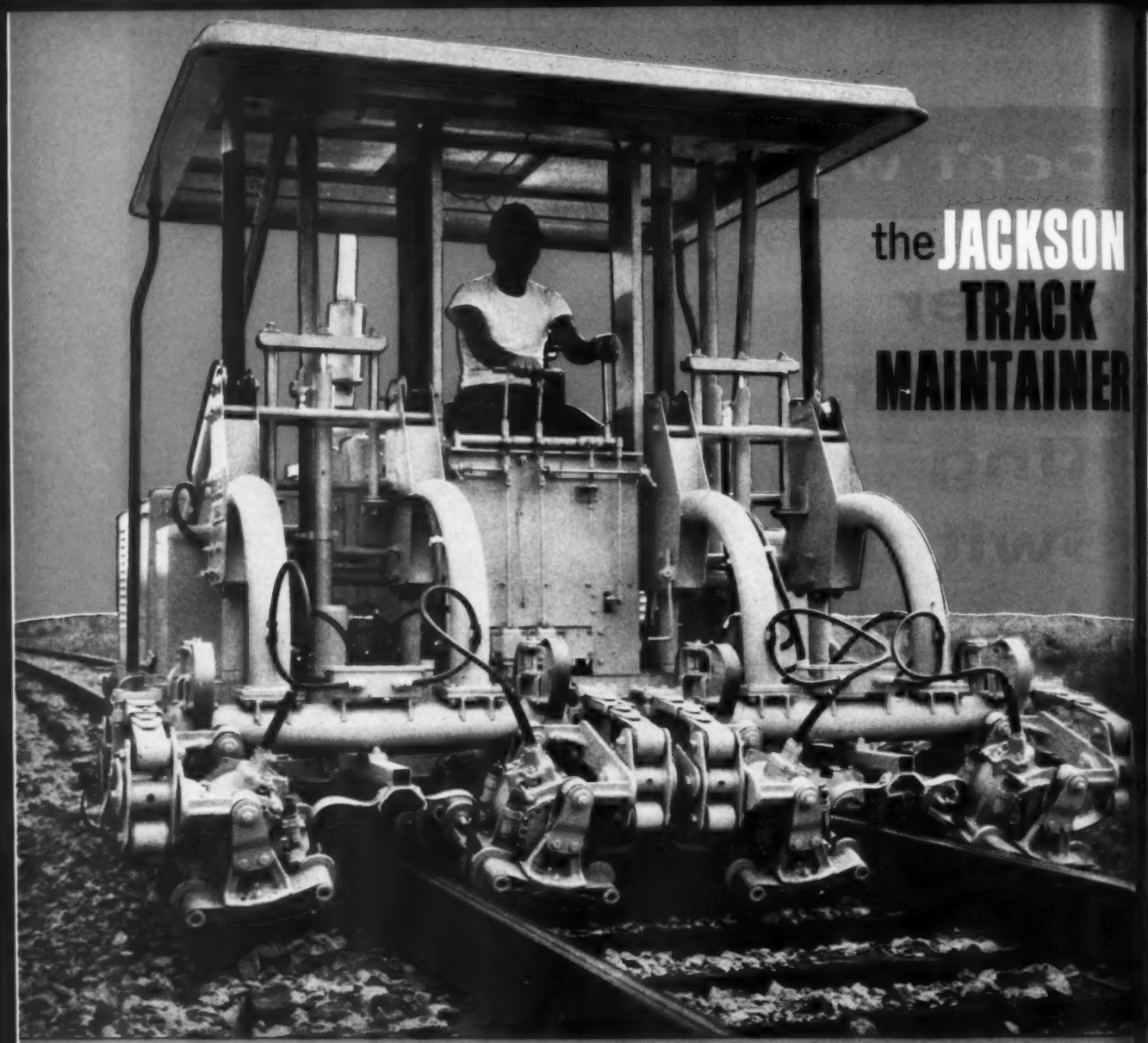

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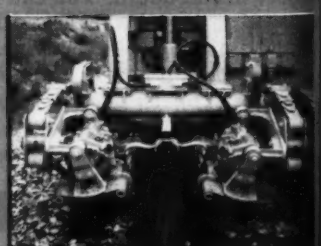
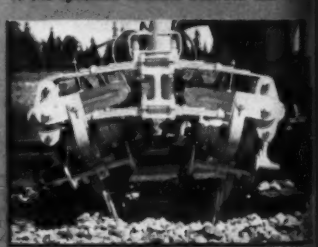
The fact that there are more Jackson TRACK MAINTAINERS in use than the total of all other machines in its category clearly indicates that in the opinion of experienced trackmen it is by far the BEST. Good as the '61 and its predecessors have been, mighty important improvements will be incorporated in the 1962 model soon to be announced. You can specify the Jackson TRACK MAINTAINER, and any of the other JACKSON tamping equipment, with complete confidence that it will enable you to put up and maintain the longest-lasting high quality track at the very minimum of cost. For more than 40 years JACKSON has occupied the top spot as builders of the best tamping equipment available . . . all backed by a practical, wholehearted field service that has no equal in the railroad world.



Note how the tamping bars get right under the rail and under the tie, all the way from the ce to the specified distance between the rails



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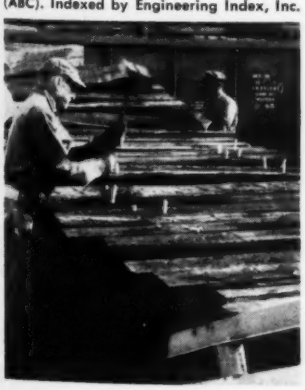

Features

Says track, B&B men need new concepts 25

Six pages of pictures and text give highlights of annual meetings of Roadmasters' and Bridge & Building Associations at Chicago last month.

Caring for electric switch heaters 31

Kenneth Weber, sales engineer, Heatrex, Inc., outlines inspection and preventive-maintenance procedures and lists seven danger points.

Fights snow with dual-purpose machines 32

Describes how the Erie-Lackawanna uses both off-track and on-track units for snow fighting that are used in the summer for other work.

Students survey IC timber bridges 34

Tells the use this road is making of civil engineering college students for accomplishing survey work earlier and at minimum cost.

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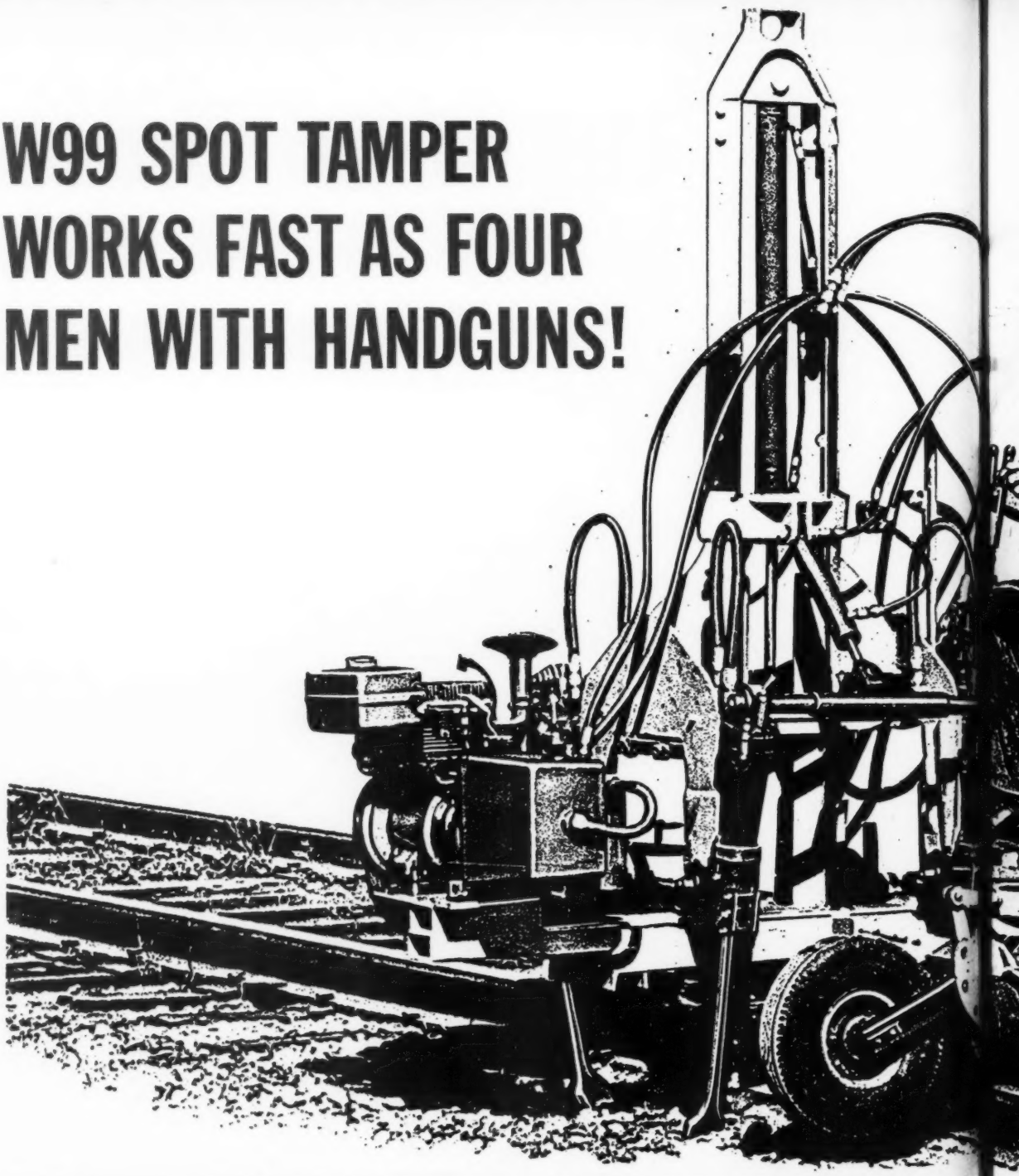
Don't miss . . .

How the Baltimore & Ohio is retreating salvaged ties for further use. Production-line process includes plugging of spike holes, adzing and dowelling prior to preservative treatment.

. . . in the November issue

W99 SPOT TAMPER WORKS FAST AS FOUR MEN WITH HANDGUNS!



W99 SERIES B SPOT TAMPER Three men can remove the W99 from the track in just a few minutes.

W72 SERIES A OIL SPRAYER
Oils rail joints for a cost of just pennies. Compact and portable.

W64 SERIES A DERRICK CAR
Ton-and-a-half limit on 13 foot boom, 360° pivot. One or two men can operate.

W100 HYDRAULIC SPIKE DR
Drives spikes for both rail for both sides of one rail. C plete hydraulic operation.

There's no need to send a big gang out tamping! With a Fairmont W99 Series B Spot Tamper on your rails, one man can do the work of four with handguns! The operator (easily trained) has complete hydraulic control of four powerful air-actuated guns. He can raise, lower, move the guns laterally, or tilt the tamping bars so that they travel under the ties—crowding the ballast under the tie for firm, lasting support. He can raise low spots, hanging ties, and old joint locations at a rate of 25-30 ties per hour!

Guns of the Fairmont W99 Spot Tamper have plenty of force for good penetration—even through hard, cemented ballast—and nearly 11 inches of lateral movement so that both pairs can work right next to the rail! Service life is increased because guns turn off automatically when raised, and the compressor runs only under load. One automatic air line oiler lubricates all four guns.

The W99 is self-propelled for efficient operation. Three men can turn the machine to work the opposite rail, or set it off the track. Either task can be accomplished in minutes. Easy setoffs mean more work time when clearing for trains. To do a better job of tamping, faster, with a minimum gang, add the Fairmont W99 Spot Tamper to your maintenance lineup. Write for details today!

*Available with or without tamping guns and compressor.

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concrete

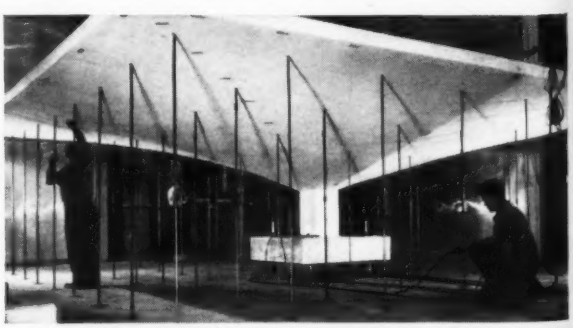
Atlantic Coast Line passenger shelter:

dramatic row of concrete "umbrellas" completed for just $1.65 per square foot

Sixty concrete shells—each 16 ft. square and with the distinctive double curvature of the hyperbolic paraboloid—form this Lakeland, Florida, passenger shelter. The repeating shells, precast on the site and erected on concrete columns, provided significant savings.

The unique geometry of the hyperbolic paraboloid produces curves that are developed entirely from straight lines. No bending or curving of form lumber required. Forms are inexpensive—and with repeated use just a few are needed. For this attractive shelter, the $1.65 per sq. ft. cost included the roof, columns, footings and drainage!

Today, progressive railroads are finding that modern concrete provides new beauty and construction economies along with the time-tested advantages of durability, fire safety and low upkeep. Write for free literature. (U.S. and Canada only.)



PCA lab tests show strength of concrete shells. Here, engineers subjected a 24-ft. square by 1½-in. thick shell to 13½ tons total downward load—applied by jacks beneath the floor.

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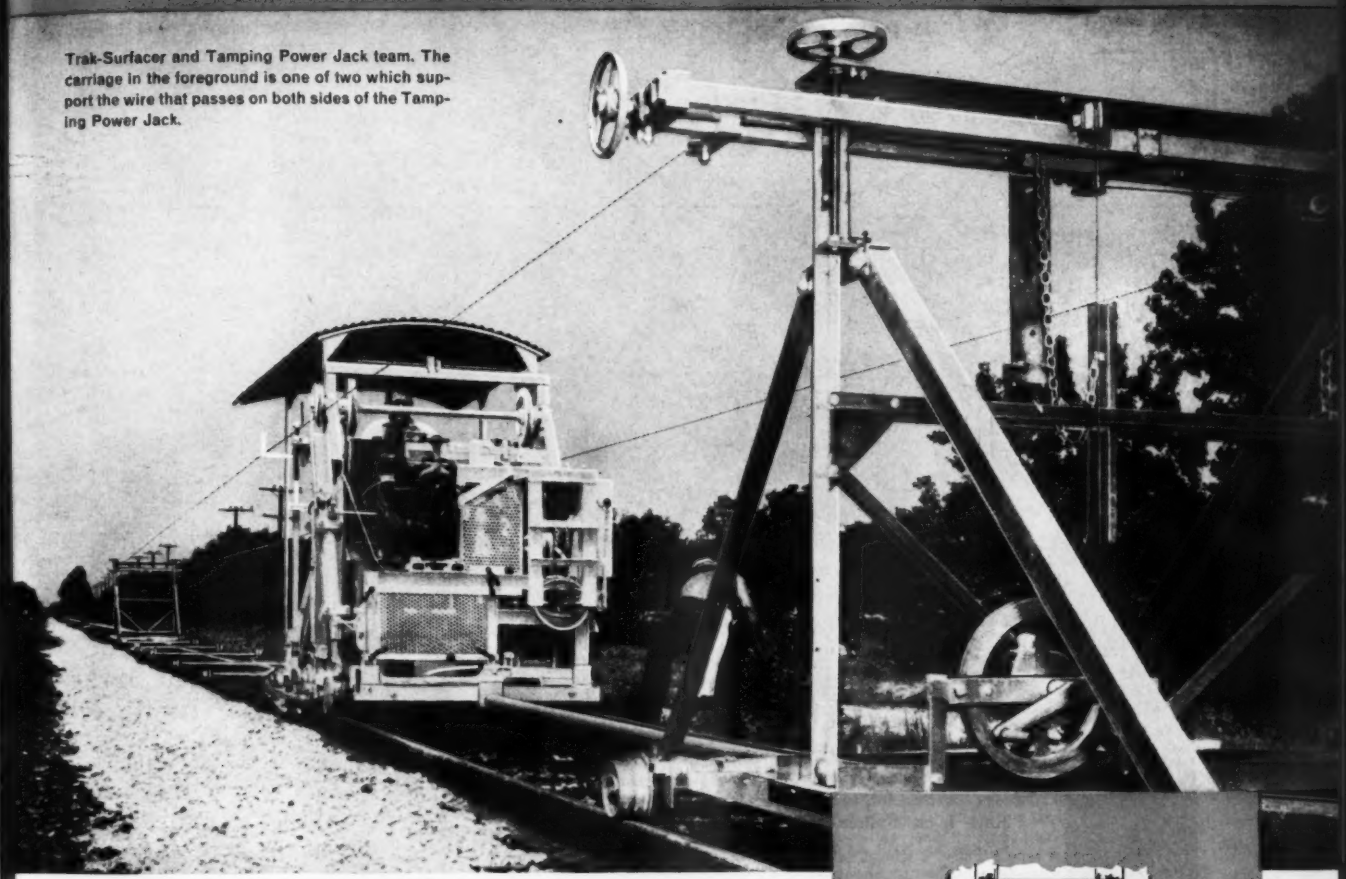
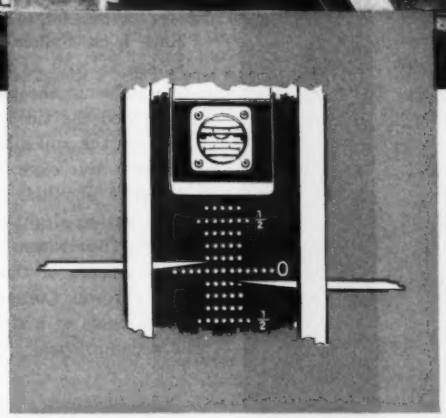
FOR RAISING TRACK...

...you can't beat the Speed, Accuracy and Simplicity of the NORDBERG TRAK-SURFACER



Trak-Surfacer and Tamping Power Jack team. The carriage in the foreground is one of two which support the wire that passes on both sides of the Tamping Power Jack.



...here are four reasons why:

1. The 125′-25′ relationship of wire length assures you of improving track profile and surface at least FIVE TIMES.
2. The scheme of Pointer in contact with Wire is the acme of simplicity.
3. The Pointer multiplies track irregularities THREE TIMES—$\frac{3}{8}$″ of Pointer Movement as seen by the operator is actually only $\frac{1}{8}$″ of Track Movement.
4. Also extremely important, the Pointer tells the operator exactly what he is doing and shows him exactly how much the track is low or high.

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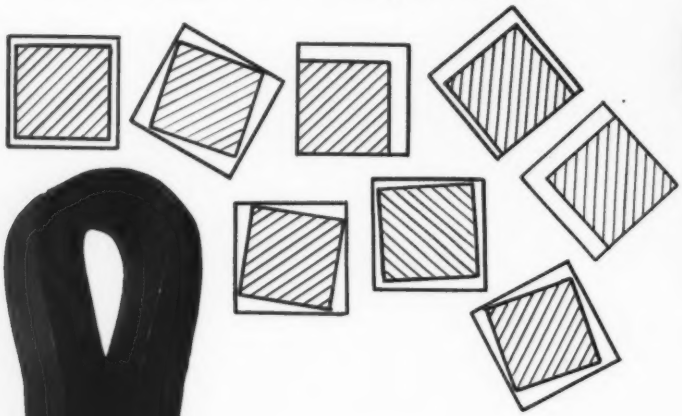
Troubled with loose fit of spikes in tie plate holes? . . . Plate cutting of ties . . . wave in the rail . . . Irregular gage?

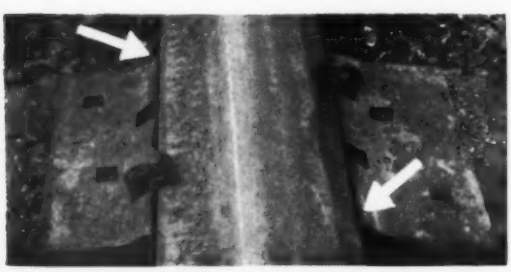


TIE PLATE
LOCK SPIKE

The common ⅝" square shank cut spike may take any one of the various positions shown in cross-section at the line spike holes of the tie plate, which are scattered about this page. A reduction in size of the holes will not correct this trouble, as exhaustive tests of cut spikes in the smaller 11/16" square lag holes have proved.

Only LOCK SPIKES completely fill the holes by compression of the spread shank—firmly holding the plates to the ties under spring tension. Plate cutting is overcome—Rail is held to gage and line.

Rail Lock Spikes and Gage Lock Spikes are rail spikes as well as plate fastenings. Rail Lock Spikes also take up the play between the width of the rail base and the tie plate shoulders. The slight protrusion on the spike head at the tie plate surface binds against the edge of the rail base and forces the opposite shoulder into contact with the rail base. This action slightly skews the tie plates, as shown in the illustration below, and binds the rail at all four corners of the plate shoulders, as indicated by the arrows. Complete elimination of play in the spike holes of a tie plate and between the shoulders is accomplished.



GAGE
LOCK SPIKE

RAIL
LOCK SPIKE

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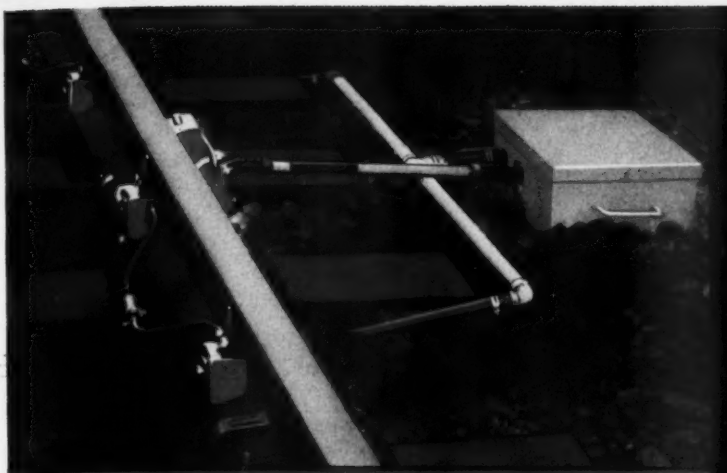

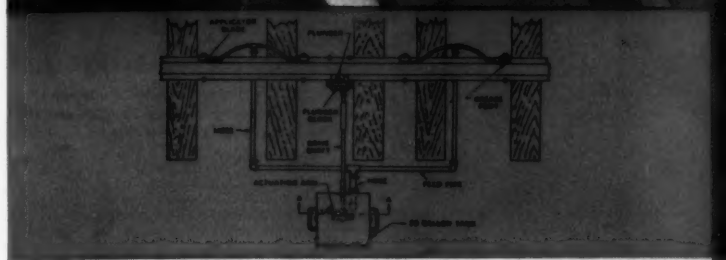

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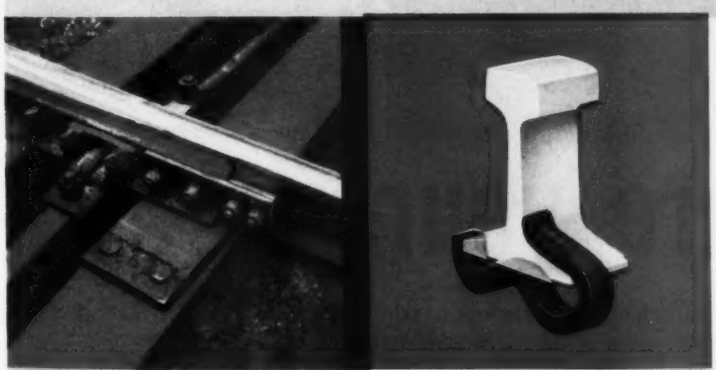
Drive shaft and feed hoses are low to prevent stumbling by track men; long proven thoroughly reliable type drive shaft.



◀ M&S RAIL ANCHOR

Made in one piece from heat-treated high carbon spring steel bars, the M&S Rail Anchor grips the rail uniformly over large surfaces. Large spring take-up provides adequate grip on rails that are reasonably worn or that are on low side of the rolling tolerance. Can be applied by machine or hand and when installed with maul or spike maul, the M&S Rail Anchor can never be over-driven; can be applied and reapplied indefinitely without loss of efficiency; striking angle is at 45° so that a glancing blow cannot hit the rail web. Due to large bearing area on top of rail base, possibility of damage by derailed wheels is reduced to an absolute minimum. Simple to install, the rugged M&S Rail Anchor provides large bend radii where high tensile stresses are encountered. In addition, it does not extend too far into ballast—only 1¾" below base of rail.

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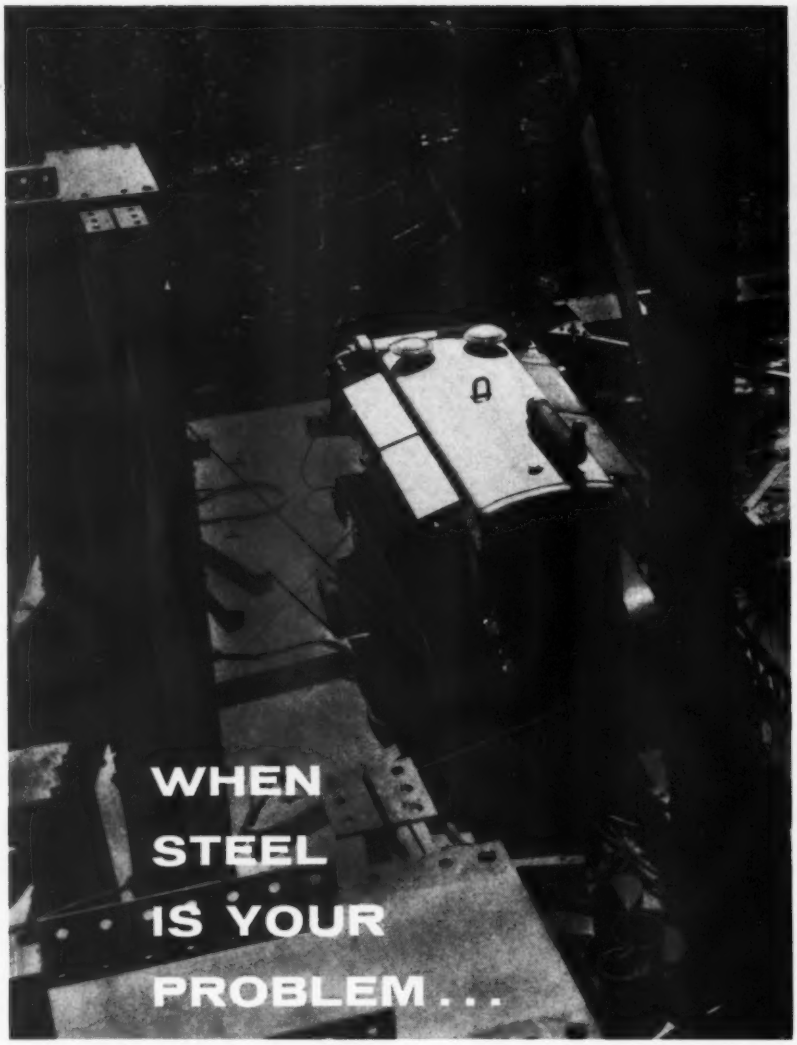

Left: CP-365 Compressor at work on bridge structure. Above: Running up nuts on structural steel with CP-612 Reversible Impact Wrench.

CP-411 Cement Chipper.

CP-4070 Triple Scaler.

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NEWS NOTES

. . . a résumé of current events throughout the railroad world

Some strength was added to the hope that an upturn in railroad earnings might be under way by the reported July net income figures. July 1961 earnings for Class I roads were $20 million, compared to the year-earlier earnings of $10 million. July traditionally is not a high-income month and, coming after the June figure when the $43 million earnings equalled that of June 1960, July's net income raised a modest hope. However, this hope was somewhat dampened by the fact that July's improved earnings were achieved without a corresponding jump in revenues. Most of the improvement in earnings was brought about by a sharp reduction in railroad operating expenses—in part due to deferred maintenance.

Carloadings in 1962 will rise 10 to 13 per cent above the 1961 levels, forecasts Railway Age, and will reach a total of 33 to 34 million. These estimates presume that there will be no shooting war. Noting that a "cautious optimism about next year" prevails among a large part of the railroad industry, Railway Age predicts that "flexible" budgets will be the order of the day and that railroad buying will total between $2.5 and $2.8 billion.

The Senate's Commerce Committee voted 9 to 8 on September 15 to shelve S.1197, the so-called "Hoffa bill," until next year. This bill would emasculate the 1958 Transportation Act's rate-freedom provisions. Previously the committee had voted 12 to 3 to postpone consideration of this bill until next year but pressure from proponents of the bill, including the International Brotherhood of Teamsters, truckers and water carriers, succeeded in bringing about another vote.

Freight forwarders won a major round in the three-year battle by the long-haul truckers against piggyback operations when a three-judge U.S. District Court in Indianapolis ruled in favor of the freight forwarders. The decision sustains the right of the forwarders to (1) offer so-called volume rates for shipments weighing as much as 10,000 lb or more, (2) own rail and truck equipment for piggyback purposes, and (3) set rates equal to or lower than those offered by truckers. The decision thus rejects demands by the nation's long-haul truckers that forwarder piggyback operations be curtailed.

Railroad employment decreased 7.62 per cent in mid-August 1961, compared with the same period in 1960. The steepest decline was among the maintenance of equipment and stores personnel.

Eleven non-operating rail unions served Section 6 notices on individual carriers on September 1 that they want a 25-cent-an-hour wage increase effective November 1. The Section 6 notices also ask a contract provision prohibiting force reductions with less than six month's advance notification. It is estimated that the increase would cost the railroads $274 million annually for the 600,000 non-operating employees and that this figure would jump to $462 million if the increase were granted to all railroad employees.

The Railroad Retirement Act was liberalized when the President, on September 22, signed a bill passed by Congress that permits railroaders who lack 30 years of service to retire at age 62. Prior to the enactment of this amendment annuities were paid to those younger than 65 only if they had 30 years of railroad service, or if their retirement was on the basis of disability. Thus railroaders now have similar rights to those provided to industrial employees through recent legislation modifying the Social Security Act.

Gulf's 4-point plan can help you of your off-track equipment . . .

Here's what this four-point plan includes: (1) the use of high quality lubricants and fuels throughout your system to keep equipment operating smoothly and continuously, (2) expert petroleum engineering counsel to help you select the types and grades of lubricants and fuels best suited to your equipment and operating conditions, (3) simplified lubrication to avoid unnecessary ordering, handling and storage of lubes, and (4) prompt delivery service when and where you need it.

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And now, this experience can work for you in the form of a well-planned program that will insure efficient, dependable performance of your off-track equipment. Gulf's 4-point plan can be the key to increasing the effectiveness of your maintenance program.

Photo courtesy of Le Tourneau Westinghouse Company, a subsidiary of Westinghouse Air Brake Company.

simplify maintenance

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5 NEW IDEAS

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by RMC

Setting Spikes *Automatically* for Driving

New Idea, AUTO-SPIKER eliminates need for hand setting spikes by feeding spikes to each of four guns. A single operator now can have complete control of nipping ties, feeding spikes and driving spikes. Automatic spike feed is a component of the new RMC Auto-Spiker and can be factory-installed on existing SpikeMasters.

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DEDICATED TO PROGRESS RPI MEMBER

Ask for Data Bulletins on Any Product Shown

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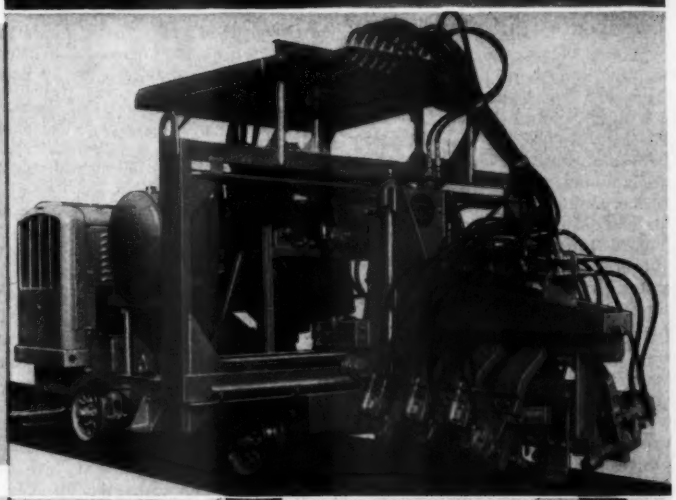
Surfacing Joints

New Idea, JOINT SURFACING DEVICE consists of a 4-wheeled aluminum cart and two 14' aluminum beams. Unit provides a direct dial reading of low spots, each rail indicated separately.

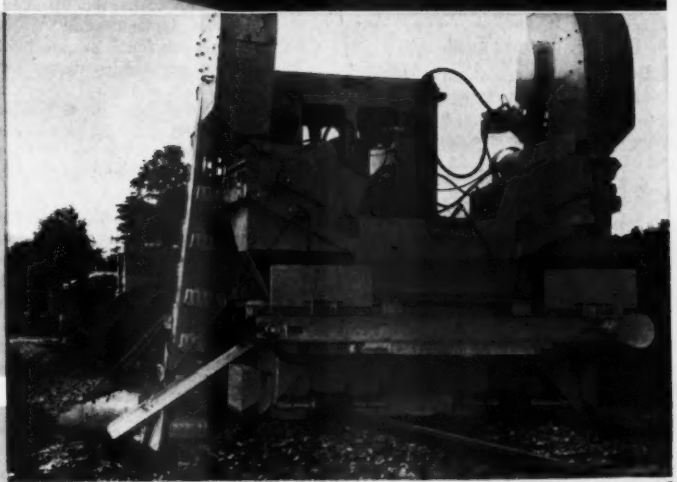
Tightening and Removing Rail Joint Bolts

New Idea, BOLTMASTER tightens three to four joints per minute with a single operator . . . using hydraulic torque wrenches for tightening or removing six or four bolts. Individual controls allow replacing broken bolts or lock washers.



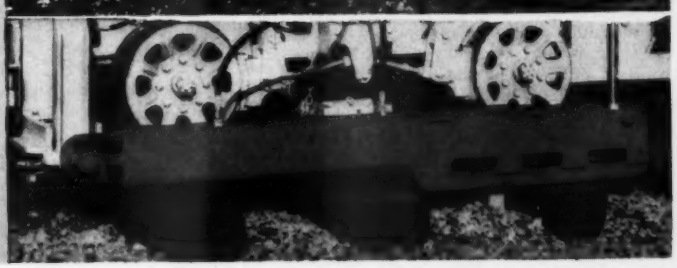
Cleaning Ballast with the Distributor

New Idea, CLEANING ATTACHMENT for McWilliams Ballast Distributor permits cleaning ballast while positioning it in the track for tamping. Also, out-of-face cleaning at speeds up to 1200 feet/hour is possible. The attachment can be mounted to existing Distributors.



Spacing Ties

New Idea, POSITIVE HYDRAULIC CLAMPING for RMC Tie Spacer, which now makes machine effective for either unraised track or out-of-face work. Interchangeable high-speed cylinders for skeletonized track now are available.



NEWS ABOUT PEOPLE

C. E. Jackman
Baltimore & Ohio

J. A. Caywood
Baltimore & Ohio

J. T. Collinson
Baltimore & Ohio

S. G. Urban
Missouri Pacific

BALTIMORE & OHIO—J. A. Caywood, assistant chief engineer maintenance, Baltimore, Md., has been promoted to chief engineer, engineering, construction and maintenance, there, succeeding **C. E. Jackman** who has been promoted to general manager, Central Region, at Pittsburgh, Pa. Mr. Caywood is succeeded by **J. T. Collinson,** engineer maintenance of way at Baltimore, who in turn is succeeded by **E. M. Cummings,** division engineer at Cumberland, Md.

R. A. Downey, assistant division engineer at East Salamanca, N. Y., has been promoted to division engineer at Chicago, succeeding **J. R. Rymer** who has been transferred to Cumberland. Mr. Rymer succeeds Mr. Cummings. **C. L. Kroll,** regional engineer at Baltimore, has been promoted to assistant chief engineer—construction.

CENTRAL OF GEORGIA—J. C. Waldrop, process superintendent, track, at Macon, Ga., has been promoted to division engineer at Columbus, Ga., succeeding **S. Fogarty, Jr.,** resigned.

ILLINOIS CENTRAL—A. O. Shelton, instrumentman at Champaign, Ill., has been promoted to assistant to division engineer there, succeeding **E. M. Richardson** who has retired after 44 years of service.

E. R. Schlaf, assistant superintendent water service at Chicago, has been promoted to superintendent of fire prevention there, succeeding **R. M. Bostick** who retired recently due to ill health.

LOUISVILLE & NASHVILLE—John W. Leinard, division engineer at Knoxville, Tenn., has been transferred to Nashville, Tenn., succeeding **R. E. Nottingham** who has retired after more than 42 years of service.

MISSOURI PACIFIC—W. H. Shideler, division engineer at Monroe, La., has been transferred to Palestine, Tex., succeeding **A. K. McKeithan** who has been promoted to superintendent at DeQuincy, La. Mr. Shideler is succeeded by **T. L. Gibson,** resident engineer of the Union Railway, a subsidiary of the MP. **P. P. Wagner, Jr.,** division engineer at Falls City, Neb., has exchanged positions with **D. J. Bertel,** division engineer at DeQuincy.

NORFOLK & WESTERN—Carl G. Carbaugh, general supervisor, roadway material yard, at Roanoke, Va., has been promoted to assistant superintendent-maintenance of way, at Portsmouth, Ohio, succeeding **Harry B. McColgan** who retired on August 31. Mr. Carbaugh is succeeded by **George R. Janosko,** assistant manager-roadway maintenance at Roanoke.

PENNSYLVANIA—H. G. Noah, assistant supervisor track at Canton, Ohio, has been promoted to supervisor track at Trenton, N. J., succeeding **W. V. Heisler** who has been transferred to Terre Haute, Ind. Mr. Heisler succeeds **T. L. Ray** who has been transferred to Orrville, Ohio, succeeding **J. T. Hartnett.** Mr. Hartnett has retired after more than 39 years of service. Mr. Noah is succeeded by **D. A. Steward,** junior engineer track at Canton. **George Langdon,** draftsman at Pittsburgh, Pa., has been promoted to assistant supervisor track at East Liberty, Pa., succeeding **P. S. Servansky** who has been promoted to supervisor track at Enola, Pa.

H. J. McNally, area engineer at Chicago, has been promoted to chief engineer—New York improvements at New York. Mr. McNally is succeeded by **G. A. Baylor,** assistant regional engineer at Pittsburgh, who is replaced by **W. M. McCracken,** resident engineer at Washington, D. C. Mr. McCracken is succeeded by **W. J. Sponseller,** assistant engineer at Pittsburgh, who in turn is succeeded by **W. S. Titlow, Jr.,** assistant district engineer at Cleveland, Ohio.

P. A. Mainquist, supervisor track at Freedom, Pa., has been promoted to assistant district engineer at Cleveland, succeeding Mr. Titlow. Mr. Mainquist is succeeded by **D. A. Shoff,** supervisor track at Williamsport, Pa., who is replaced by **W. D. Lovell,** supervisor track at Dover, Ohio. Mr. Lovell is succeeded by **G. E. Beinhower,** assistant supervisor track at Steubenville, Pa., who in turn is succeeded by **C. C. Snyder,** general track foreman at Perryville, Md.

J. A. Jorlett, area engineer-structures at Philadelphia, Pa., has been promoted to structural engineer-New York improvements at New York. Mr. Jorlett is succeeded by **J. A. Campbell,** design engineer at Philadelphia, Pa.

ROCK ISLAND—Grady Davis, roadmaster at Kansas City, Mo., has exchanged positions with **J. C. Hefner,** roadmaster at Wichita, Kan.

SOUTHERN—Coburn L. Moser, supervisor bridges and buildings at Asheville, N. C., has been promoted to division engineer there. Mr. Moser is succeeded by **James F. Watkins,** supervisor bridges and buildings at Sheffield, Ala., who in turn is succeeded by **Randolph W. Lee,** assistant supervisor track at Selma, Ala. **William B. Sproull,** assistant supervisor track at Rockmart, Ga., has been promoted to supervisor track at Cochran, Ga.

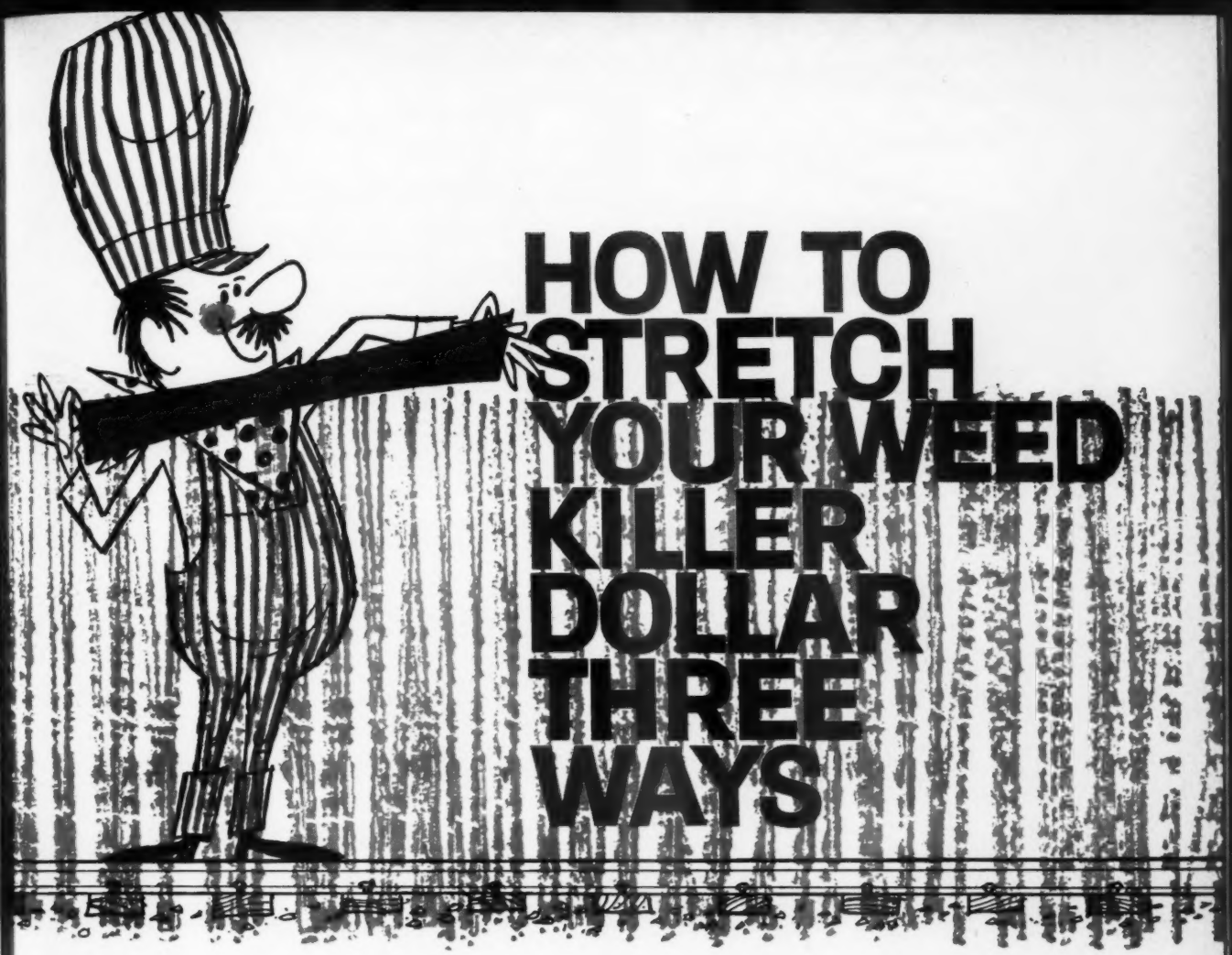
James R. Latimer, assistant office engineer, Washington, D. C., has retired after 21 years of service. **James G. Todd,** assistant engineer maintenance at Charlotte, N. C., has retired after 46 years of service.

SOUTHERN PACIFIC—Jack E. Hebbron, valuation engineer at San Francisco, Calif., has been promoted to valuation officer there, succeeding **Ethan J. G. Allen** who has retired after more than 47 years of service. Mr. Hebbron is succeeded by **Leo Gunderson,** assistant valuation engineer at San Francisco, who in turn is succeeded by **Stephen Miller, Jr.**

Biographical briefs

Stanley G. Urban, 51, who was recently promoted to engineer of buildings of the Missouri Pacific and Texas & Pacific at St. Louis, Mo. (*RT&S*, June, p. 10), was born at St. Louis and graduated from Washington University in 1932 with a Bachelor's degree in architecture and in 1933 with a Master's degree in architecture. He entered the service of the MP in 1936 at St. Louis. Mr. Urban was granted a leave of absence from 1942 to 1943 to work for the Bureau of Yards and Docks of the U. S. Navy. He served in the U. S. Army from 1943 to 1945. Returning to the MP in the latter year he was appointed assistant engineer at St. Louis. Mr. Urban was promoted to architect of the T&P at Dallas, Tex., in 1946, the position he held at the time of his recent promotion.

Thomas S. Carter, Jr., 40, who was recently promoted to vice president, operations, of the Missouri-Kansas-Texas at Dallas, Tex. (*RT&S*, Aug. p. 10), was born at Dallas and graduated from Southern Methodist University in 1944 with a Bachelor of Science degree in civil engineering. Mr. Carter entered the service of the Katy in 1941 as a rodman. From 1944 to 1946 he served in the U. S. Army Corps of Engineers. He was promoted to transitman in the latter year after his return from military service, later serving as assistant engineer in the bridge and architectural departments. Mr. Carter was further promoted to assistant district engineer in 1952, to district engineer in 1953, to assistant chief engineer in July of the latter year and later to chief engineer. He was serving in the latter position at the time of his recent promotion.



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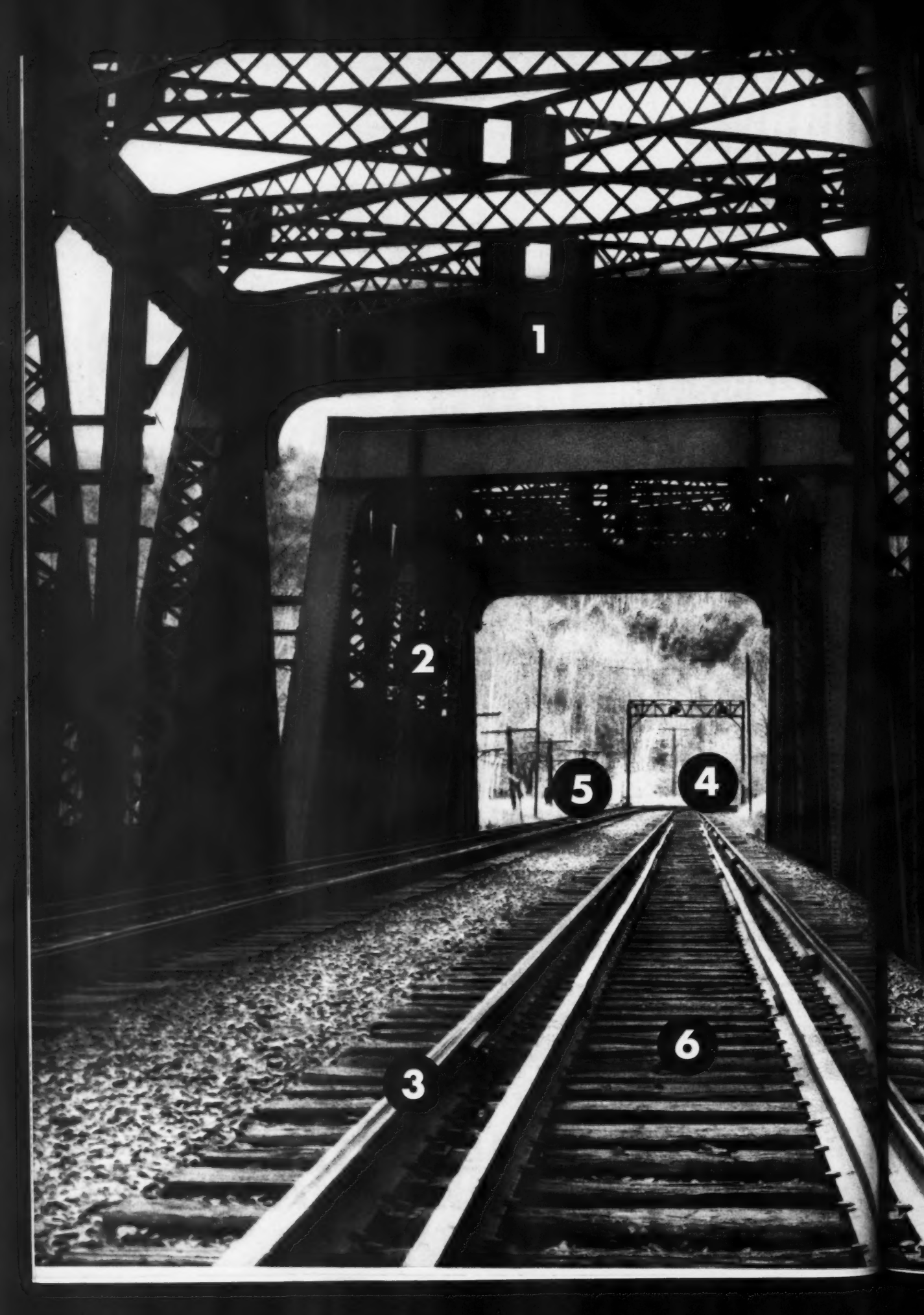
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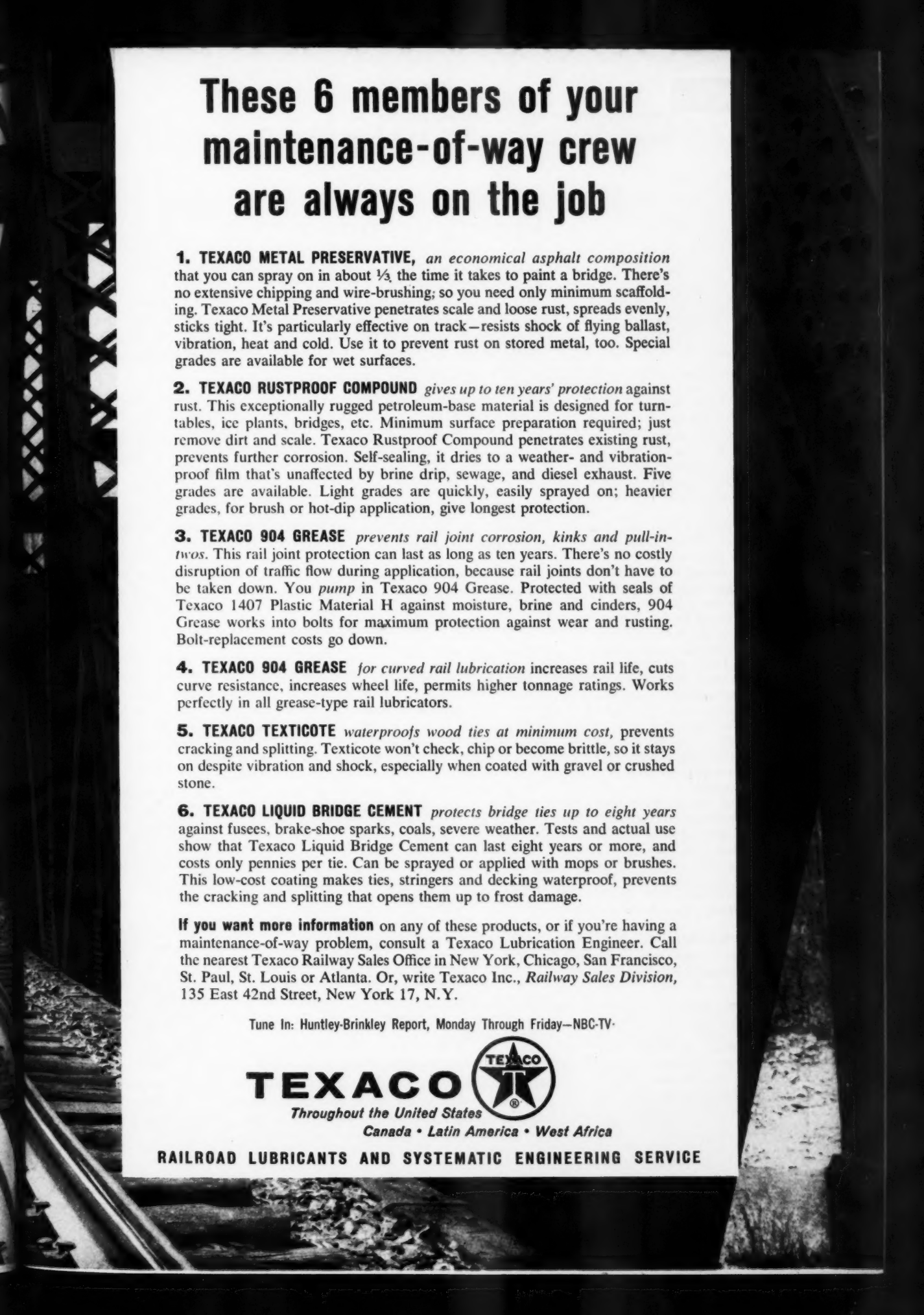

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1. TEXACO METAL PRESERVATIVE, *an economical asphalt composition* that you can spray on in about ⅓ the time it takes to paint a bridge. There's no extensive chipping and wire-brushing; so you need only minimum scaffolding. Texaco Metal Preservative penetrates scale and loose rust, spreads evenly, sticks tight. It's particularly effective on track—resists shock of flying ballast, vibration, heat and cold. Use it to prevent rust on stored metal, too. Special grades are available for wet surfaces.

2. TEXACO RUSTPROOF COMPOUND *gives up to ten years' protection* against rust. This exceptionally rugged petroleum-base material is designed for turntables, ice plants, bridges, etc. Minimum surface preparation required; just remove dirt and scale. Texaco Rustproof Compound penetrates existing rust, prevents further corrosion. Self-sealing, it dries to a weather- and vibration-proof film that's unaffected by brine drip, sewage, and diesel exhaust. Five grades are available. Light grades are quickly, easily sprayed on; heavier grades, for brush or hot-dip application, give longest protection.

3. TEXACO 904 GREASE *prevents rail joint corrosion, kinks and pull-in-twos.* This rail joint protection can last as long as ten years. There's no costly disruption of traffic flow during application, because rail joints don't have to be taken down. You *pump* in Texaco 904 Grease. Protected with seals of Texaco 1407 Plastic Material H against moisture, brine and cinders, 904 Grease works into bolts for maximum protection against wear and rusting. Bolt-replacement costs go down.

4. TEXACO 904 GREASE *for curved rail lubrication* increases rail life, cuts curve resistance, increases wheel life, permits higher tonnage ratings. Works perfectly in all grease-type rail lubricators.

5. TEXACO TEXTICOTE *waterproofs wood ties at minimum cost,* prevents cracking and splitting. Texticote won't check, chip or become brittle, so it stays on despite vibration and shock, especially when coated with gravel or crushed stone.

6. TEXACO LIQUID BRIDGE CEMENT *protects bridge ties up to eight years* against fusees, brake-shoe sparks, coals, severe weather. Tests and actual use show that Texaco Liquid Bridge Cement can last eight years or more, and costs only pennies per tie. Can be sprayed or applied with mops or brushes. This low-cost coating makes ties, stringers and decking waterproof, prevents the cracking and splitting that opens them up to frost damage.

If you want more information on any of these products, or if you're having a maintenance-of-way problem, consult a Texaco Lubrication Engineer. Call the nearest Texaco Railway Sales Office in New York, Chicago, San Francisco, St. Paul, St. Louis or Atlanta. Or, write Texaco Inc., *Railway Sales Division,* 135 East 42nd Street, New York 17, N.Y.

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RAILROAD LUBRICANTS AND SYSTEMATIC ENGINEERING SERVICE

More for less

Today the railroad maintenance theme is "more for less," meaning more work at less unit cost. The ways in which this theme is being put into effect are many and varied. One of the recent variations seems worth reporting here because it involves a rather bold approach to the problem of cutting costs.

This instance relates to the welding of used rail into long strings. Such practice, of course, is not new as many roads already have followed it successfully. But, to date, only the better used rails have been selected for welding.

What makes this work different is that the particular road welded 12,000 ft of 132-lb rail which was badly curve-worn to the extent that it was unsuitable for reuse on high-speed main track. The welding plant was instructed only to match the ball on one side without going to the trouble to turn rails when necessary to keep them in a work-wise position.

The welded strings were then laid over a swampy location on a branch line carrying only freight trains. On this line train speeds had been limited to 25 mph owing to poor joint conditions. After the welded rail was laid, train speeds were immediately raised to 35 and 50 mph.

This road feels that it has made several gains. It has saved the cost of cropping the branch-line rails as well as the cost of new bars and the labor of applying them. It has found good use for its curve-worn rail, which has so improved riding conditions that faster train service can be rendered on the branch line. Also, it will save on future maintenance by the elimination of most joints.

Profits vs. adequate property maintenance

After trailing last year's figures by substantial amounts each month during the first half of 1961, the net income of Class 1 railroads in July, the latest month for which figures are available, registered a gain over the corresponding month of 1960.

No question about it, this is an encouraging development. Railroad earnings in recent years have been depressed by reduced revenues and increased costs, and any evidence of a turn for the better is cause for encouragement. For this reason the July performance is significant. But before dismissing the matter at this point it is worth examining the figures further to find out precisely what is responsible for the improved performance. When this is done a somewhat different picture is brought to light than that conjured up by accepting the report of increased earnings at its face value.

We find that the increase in earnings occurred despite a decline in revenues. To be exact, operating revenues in July this year were $754.2 million, while last year they were $759.2 million. The decrease was $5.0 million.

Obviously, the only way to register a gain in profits in the face of a decline in revenues is to cut expenses an amount greater than the reduction in income. Maintenance of way and structures expenses in July showed a reduction of $3.9 million compared with last year. Maintenance of equipment expenses suffered an even more serious cut, amounting to $8.0 million. As a result of these cuts and other factors, net income was $20 million, an increase of $10 million over last year.

It is possible to look at this situation from two points of view. One is that the earnings record of the railroads for July is an indication of the progress made by the railroads in their efforts to reduce expenses through the use of more efficient methods. The other is that the July figures show the railroads are "cutting to the bone" in their efforts to show a profit, and that, in so doing, they are only adding to the amount of deferred maintenance that must be made up later.

Actually both of these viewpoints are logical. Through mechanization and similar activities the railroads *have* achieved a remarkable degree of control over their costs, one that should have a favorable effect on net income when the hoped-for increase in revenues takes place. At the same time it is highly questionable whether the level of M/W expenditures in July, and that prevailing currently, is sufficient for adequate maintenance of the properties.

The July figures show that the so-called "spending" departments, such as the M/W forces, can be a potent factor in putting the railroads on a profitable basis. At the same time it is apparent from these figures that one of the greatest needs of the railroads today is to find a way to reconcile the desire to make a satisfactory profit with the need for adequate property maintenance.

Here's a Really Safe Way to Light a Switch Lamp

Safety—for men and equipment—is one of the principal functions of switch lamp lighting. And it's an *extra* benefit you get by installing the Edison system.

Specifically—

1. THE BATTERY

An Edison Carbonaire, Type 2-S-J-1, provides dependable, continuous light for 10 to 12 months, without maintenance. The light is clear, clean and steady-burning—completely unaffected by high wind, rain, sleet or snow. There is no flammable oil to store, transport or handle; and no open flame at the switch. Battery operation is low voltage, which also eliminates the shock hazard of ac-lighting.

2. THE LENS

The Stimsonite® Acrylic Switch Lamp Lens which provides the safety of a light indication 2 to 10 times as bright as glass lenses at all operating ranges. Its unique and exclusive reflector ring gives added standby protection in case of lamp failure. And its 2-section construction means that even if the front section is shattered, the rear lens still provides an emergency indication.

3. THE BATTERY BOX

The Edison Fiberglass Battery Box—rugged and durable with specially reinforced cover secured to the box by interlocking brackets for safety purposes. Weighs only 10 lbs. which makes for easy handling and installation.

These safety features alone are sufficiently important to continue conversions to Edison Carbonaire Switch Lamp Lighting as rapidly as practical. But when—in addition—you save *up to 60% or more* over oil lamp operating costs, it becomes a modernization economy that no railroad will want to overlook.

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PRIMARY BATTERY DIVISION BLOOMFIELD, N. J.

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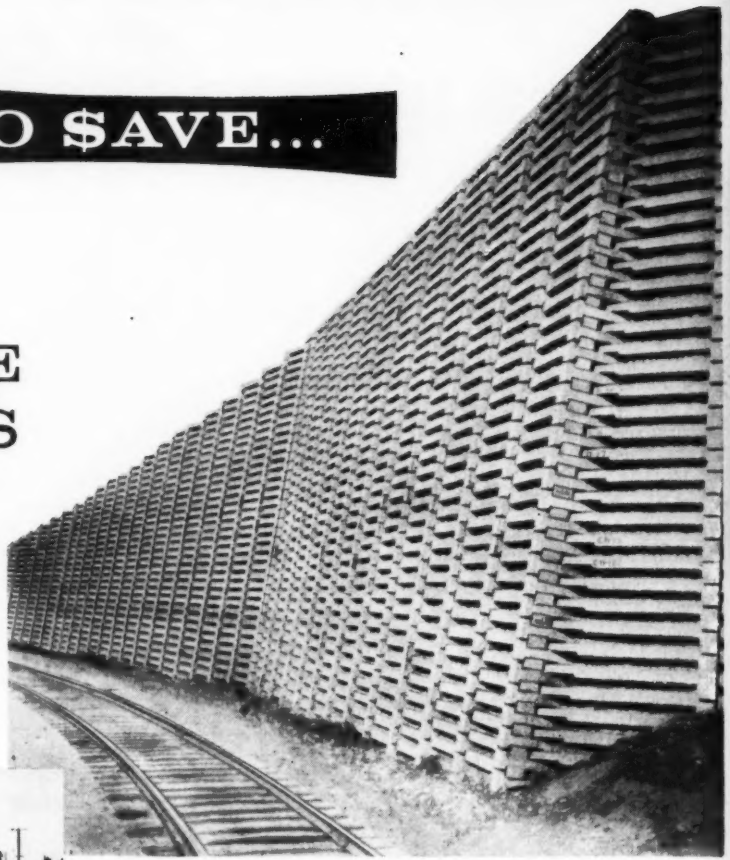

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Railway TRACK and STRUCTURES

OCTOBER 1961

Vol. 57, No. 10

ALL SESSIONS of the meetings were well attended. Registration consisted of 766 members and 343 guests of the two groups.

Convention report . . .

Says track, B&B men need new concepts

Railroad men attending the annual meetings last month of the Roadmasters' and Bridge & Building Associations were the recipients of some "Dutch-uncle" type of advice from several of the main speakers at the joint sessions. At their separate meetings the groups heard committee reports and addresses on timely subjects. On this and the following pages is given, in text and pictures, a highlight report on the proceedings.

Speakers at joint sessions stress need to meet present-day challenges

● ". . . There must be a complete change in the standards, concepts, and evaluations of the maintenance of way fraternity with regard to their entire field of endeavor."

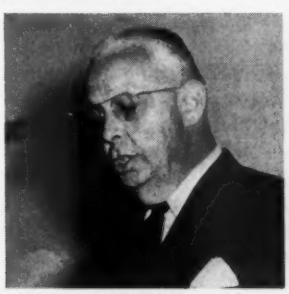
This statement was made by J. P. Hiltz, Jr., vice president (operations and maintenance), Delaware & Hudson, before a joint session of the Roadmasters' and Bridge & Building conventions, held at the Conrad Hilton Hotel, September 18-20.

As an example of what he meant Mr. Hiltz pointed to present-day tie-renewal practices. He has come to the conclusion "that a tie should be *really bad* before it is removed—not just look bad." It is his opinion that "many thousands of 'bad-looking' ties which are being renewed today could very well have been left in track for many more years." Because of such factors as dieselization, improved tamping, ballast cleaning, and decreased emphasis on perfect riding conditions due to curtailment of passenger service, Mr. Hiltz feels "we must drastically

The principal speakers and what they talked about . . .

C. E. BERTRAND declared we must educate "our . . . people to stand on their own feet . . ."

T. B. HUTCHESON stressed need for continuing education to adjust to conditions.



WAYNE JOHNSTON said we must "become super-salesmen for the railroads . . ."

J. P. HILTZ JR. spoke on "Where to now in maintenance of way and structures?"

CHICAGO, San Francisco and New York are represented here by T. Y. Gehr (Matisa Equipment Corp.), C. Baldassari (National Lock Washer) and R. A. Corley (Mid-West Forging & Mfg. Co.).

THREE FRISCO chief engineers—E. L. Anderson (June 1950—Dec. 1956), B. H. Crosland (Jan. 1957—July 1961) on right, and J. H. Brown, center, who was appointed on Aug. 1, 1961.

R. H. BEEDER brought greetings from the AREA and told why his association would limit its next meeting to 1½ days.

R. T. JOHNSON, JR., welcomed the members on behalf of the Association of Track & Structure Suppliers.

P. J. WOLF spoke of AT&SS' plans for entertainment and told the railroaders how they could get tickets for the banquet.

change our standards with regard to tie renewals with a view toward appreciably reducing our expenditures for this item. We cannot afford our luxurious standards of yesterday or today."

Mr. Hiltz also expressed the opinion that "there must be an extension of automation never before dreamed of, which will produce a quantity and quality of work beyond our present concepts." He acknowledged that "we have most certainly made a tremendous amount of progress with regard to automation . . . but, we must face up to this fact squarely —we have a long way to go if the maintenance of way department is to do in the future what it did in the past to keep the railroads in the running with their competition."

In explaining what he meant Mr. Hiltz raised this question: "Why does a tie-renewal gang cover 5000 ft today and only 2000 ft tomorrow?" In most instances, he said, the answer lies in the amount of ties which have to be renewed. "I think," he continued, "that in order to get true production-line perfection, the potential of each unit of the gang should be determined and production programmed for the whole gang according to the potential of each individual unit.

"For instance, if it is determined that the tampers can surface 5000 ft per day and the tie unit can renew 400 ties per day—than no more than 400 ties should be programmed for renewal in any 5000 ft of track. No, this won't produce *real good* track at first—but the track will be an improvement over what it was—and the next time around conditions will get even better—and in the meantime you will be getting 5000 ft of track per day *every day* out of that gang."

Another admonition that concepts must be changed was included in the closing remarks of a second speaker—C. E. Bertrand, vice president (operations and maintenance), Baltimore & Ohio. He considered it "necessary to say that we must change our entire concept of what is wrong with our railroad system and devote our efforts to strengthening and educating our responsible people to stand on their own feet, make decisions and take action of their own initiative within bounds of proper managerial policy, rather than waiting for some antiquated method of operation to catch up with what they may consider their advanced thinking."

Another speaker—T. B. Hutcheson, chief engineer, Seaboard Air Line—stressed the need for continuing education to adjust to changing conditions. The changes of the future, insofar as they affect the work of managers, will be influenced by four factors, said Mr. Hutcheson. The first of these, he said, is the explosive growth of both the physical and behavioral sciences. The second is the rapidly increasing complexity of technology in all fields. The third is found in the growing complexity of industry-society relationships, and the fourth is the changing composition of the work force.

Inequitable treatment of the railroads, and what to do about it, was the subject of a fourth speaker—Wayne Johnston, president of the Illinois Central.

While acknowledging the contribution to railroad progress made by members of the two associations in recent years Mr. Johnston believes "all you have done is not enough. I do not mean you are inadequate at your jobs. I mean something beyond those jobs. All of you and I, and all other railroad people, officers and rank and file alike, need to do even more than we are doing. We need to become super-salesmen for the railroads of the United States."

HAVE YOU registered? These men were to see that you did. They are L. G. Lawson, CNR, W. C. McCormick, SAL, and R. H. Miller, LS&I, who were members of the Registration committee.

ANOTHER JOKE is enjoyed by H. E. Michael, NCG, J. C. Cosgrove, RMC, R. E. Tew, SAL, F. R. Woolford, WP, R. A. Baer, NCG, and W. J. Jones, SP, just before meeting started.

HOW ARE THINGS with you? L. A. Loggins, chief engineer, T&NO, and D. C. Hastings, gen. supt. term., ACL.

BUSINESS discussion is had by manufacturers R. M. Jenner, vice-president, RMC, and W. H. Woodings, president, W-V.

SUPPLYMAN W. D. Hoffman, president, RTW, exchanges pleasantries with J. M. Salmon, Jr., chief engineer, Clinchfield.

Mechanization, tie renewals, welded rail and housing interest track men

Machines and equipment continue to command the attention of track men. Two of the six subjects considered during the Roadmasters' sessions concerned equipment. One discussed the effect of equipment on track forces and the other dealt with the latest machines available for reducing track maintenance.

The committee reporting on the effect of mechanization said that before mechanization, the size of gangs, the equipment and work methods were greatly standardized. Today the forces fall into several categories. One is where section gangs are retained exclusively, as on branch lines, remote wilderness roads, short lines and terminal roads. Another is where section gangs have been completely eliminated and replaced by district gangs. This category was reported to be in a minority, however.

The great bulk of railroad forces, the committee stated, fall in the category where section forces have been retained but with either longer sections or fewer men in the gangs. This organization is supplemented by extra gangs, district gangs, patrol gangs and system gangs.

Other effects of mechanization, according to the committee, are that the amount of track raise made during surfacing operations has been decreased and the maximum size of ballast has been reduced. This is said to ensure maximum production of tamping machines.

The other committee, reporting on the latest methods and machines for improving and reducing track maintenance, said that the size of a maintenance gang is changing as more and more roads adopt division and district gangs. They vary in size from a foreman and 3 men maintaining 9 miles of track to a foreman and 8 laborers maintaining 240 miles of track.

The multi-tool spot tamper is playing an important role in mechanization, this committee stated. Recently, ballast boxes have been added to these machines to make them more self-sufficient.

This committee also found that about 40 per cent of the railroads use special cars for spreading ballast. It was reported that their use has almost doubled performance.

E. F. SNYDER, president of Roadmasters' Assn. and assistant to chief engineer, IC, directed sessions of that group.

Ties and rail, the two basic materials of the track structure, also came up for study by special committees. The committee reporting on ties pointed out that tie renewal costs continue upward, despite the fact that tie life has been materially lengthened.

The committee felt that it was important that tie inspections be made carefully, preferably by men having field experience. The committee listed 12 factors which should be considered when marking ties for renewal. The most important was the condition of the tie itself, followed in importance by the condition of the tie on each side, its location on tangent or curved track,

BRIDGES were discussed by this group comprised of H. A. Boehling, Jr., asst. supvr. br. erect., C&O, J. F. Warrenfells, Jr., chief engineer, JT, and E. B. Jones, supvr. br. erect., C&O.

SOUTHERN men seem to rally instinctively. Here are R. L. Fox, proc. engr. struct., A. Cook, Jr., jr. supvr., J. E. Greene, div. engr., and F. B. Lindsay, trk. supvr.

HURRICANES Carla and Esther came up for discussion by R. H. Carpenter, engr. m/w, MP, F. L. Etchison, ch. engr., WM.

CHIPMAN'S district manager J. T. Degman talks with Nickel Plate's assistant chief engineer, D. J. White.

H. E. DURHAM, AAR research engineer track, discusses work with C. H. Sandberg, chief engineer, AT&SF Eastern Lines.

traffic density, and speed of trains operating on the track.

Economically, ties should not be renewed by hand, the committee stated, except at isolated spots, under extreme dense-traffic conditions, at road crossings, in yards where only one track can be removed from service, and in the renewal of switch ties. Renewing ties by hand costs from $1.89 to $2.50 per tie in place, whereas costs average $1.05 per tie with machines.

The committee reporting on the maintenance of continuous welded rails stated that among the advantages of welded rail are: Less joint maintenance, less circuit trouble, better riding qualities, less spot surfacing, and extended life of rails, ties and equipment. On the other hand, welded rail has some disadvantages which are: The requirement of special equipment for handling, more problems when changing out damaged sections, greater attention needed for anchorage, and more caution required while surfacing track. However, it was generally agreed by the committee that welded rail permitted the surfacing cycle to be extended from 35 to 50 per cent.

Another special committee presented a report on the handling, housing and economies of track gangs. The report covered the types of housing, equipment and force organizations now in use. It also discussed the training of personnel, the current need for proper planning of work and the importance of keeping cost records for properly evaluating the work.

A study of current procedures for preventing and repairing washouts was reported on by another special committee. It was believed that there is now less danger of washouts because the volume of streams and rivers is now better regulated. Also, repairs are greatly facilitated by the availability of more off-track machines.

The Roadmasters' also considered reports of their three standing committees.

NEW OFFICERS . . .

Roadmasters' Association

In the election of officers to serve the Roadmasters' Association during the ensuing year, L. C. Blanchard, roadmaster, Chicago, Milwaukee, St. Paul & Pacific, Minneapolis, Minn., was advanced from first vice president to president; R. H. Carpenter, engineer maintenance of way, Missouri Pacific, was moved up from second vice president to first vice president; and F. L. Etchison, chief engineer, Western Maryland, and a director of the association, was elected second vice president. R. G. Simmons, general roadmaster, Chicago, Milwaukee, St. Paul & Pacific, was re-elected treasurer, and Mrs. Ruth Weggeberg was re-elected to the position of secretary of the association.

Two new directors were elected to serve four-year terms. They are W. C. McCormick, general roadmaster, Seaboard Air Line, and R. E. Dove, associate editor, *Railway Track and Structures.*

L. C. Blanchard
President-Elect
Roadmasters' Association

FRISCO ENGINEERS who met at the convention are B. E. Buterbaugh, spec. engr., V. R. Copp, prin. engr., both from Springfield, Mo., and R. E. Catlett, div. engr., Ft. Worth, Tex.

LINED UP are W. Simmons, Jack. Vib., W. T. Richards, mfrs. repr., and SP's A. deMoss, asst. engr. m/w&s, J. E. Peffly, asst. b&b supvr., R. M. Davis, rdm., A. L. McHenry, sr. asst. div. engr.

CHIEF ENGINEERS R. L. Mays, Nickel Plate, and W. J. Hedley, Wabash, pose cheerfully for photographer.

B. H. CROSLAND, ch. engr. (ret.), Frisco, laughs after quip made by J. E. Eisemann, ch. engr., AT&SF Western Lines.

ARMCO'S chief sales engineer, H. L. White, delivered an address on the "Ring compression theory of culvert design."

Local purchases, roofs, bridge decks, machines, accounting discussed by B&B

Among the five committee reports presented before the Bridge & Building sessions was one that came out strongly for local purchases of materials and their delivery to the job site by local suppliers.

Discussing first the effect of buying practices on prices the committee said there is "no question . . . but what a saving in price of material can be made by buying in quantity, providing it is for use during one construction season only. Also provided that the savings made . . . are not lost as soon as materials move away from stores. This saving can be dissipated in many ways, such as per diem on revenue cars which are kept under load for an undue length of time, by labor for unloading, etc."

However, when the committee asked, in a questionnaire, the question, "Would you, as an official of your railroad, recommend that bridge and building materials be delivered to the job site by purchase from local suppliers?", 82 per cent answered "yes" and only 15 per cent answered "no."

On the basis of the questionnaire and other considerations the committee was led to conclude that "a reduced number of handlings by purchasing from local suppliers for job-site delivery saves considerable labor costs and makes bridge and building carpenters available for more skilled work. Thus a saving is made due to the fact that more actual productive work can be performed."

The committee also concluded that local purchases result in savings due to reduced inventory and that, when made in connection with emergency repairs, there is a resulting saving in labor.

Several interesting conclusions having to do with the use of new types of roofing materials were contained in a report dealing with the selection, application and cost of roofing materials. When old roofs are renewed or replaced consideration should be given to the use of a different material that would better fit the needs of the building, said the reporting committee. In this connection it mentioned several new or improved roofing materials, including plastics, an asbestos-coated asphalt shingle which meets the underwriters Class "A" rating, and a steep asphalt topping for built-up roofs that can be used on slopes up to 6 x 12.

ATTENDANCE at sessions of B&B Association was swelled by special features, elating President H. D. Curie.

"When you select the roof for your building," said the committee, "be sure you compare various materials so you can choose the one that best meets all the requirements."

A committee reporting on the protection and preservation of bridge decks and timber trestles offered the promise that "modern science can, and will, be of great help in our problems involving timber." It then proceeded to mention three new ideas in the development or testing stage. One of these is the use of atomic radiation to inspect

MEN FROM T&NO included W. H. Rainey, B&B supervisor, and R. J. Schulze, assistant roadmaster, from San Antonio, Tex., and Ennis, respectively. At right is R. J. Simpson, Mannix.

E. S. BIRKENWALD, Southern, pauses at registration desk with C. L. Towle, DT&I.

IN EARNEST conversation were R. E. Tew, SAL, and Victor E. Hall, Santa Fe.

Panel talks about epoxies in B&B work

B&B members exhibited a keen interest in epoxies by filling the meeting room to capacity during a panel discussion of these materials. Trial batches were mixed by panelists to demonstrate curing properties. Talks were followed by extended question-and-answer period.

J. R. WILLIAMS (CRI&P) was moderator; also spoke on applications.

R. C. ALEXANDER (Jones-Dabney Co.) explained chemistry of epoxies.

FREEMAN DREW (AAR) described research program now under way.

timbers for internal defects, "also the possible use of atomic radiation to prevent decay of timber due to fungi, by attacking and destroying such fungi."

The use of plastics for repairing checks and splits in timber was another development mentioned by this committee. "With the vast use of plastics now being made it is entirely probable that this problem will soon be more completely answered," it declared. A third development mentioned by the committee is "an accurate method of determining the remaining service life in a piece of timber in order to form some judgment as to the economies of expending time and effort to extend the service life."

In reporting on modern tools and equipment for B&B forces another committee had some pointed comments to make about the use of machinery. ". . . It is not good judgment," it said, "to invest in machines that must stand idle for long periods of time. Where tools are available that are essential to the work, and rental equipment is not available, then these tools, if on hand, should be placed in a tool pool where they are made available to others on the system when not in use. As soon as the person or gang has finished with them, they should be returned to the pool where they are kept in working order and *not buried out on the system.*

"At present no reporting railroad has a complete or satisfactory system" of making work reports for machine accounting. This statement was made by a committee reporting on the simplification of accounting methods and work reports for bridge and building labor forces. This committee expressed the opinion that "every effort should be made by all concerned to review the accounting forms now in use and adjust to one standardized form that will furnish the necessary information for machine accounting. At present there is a wide variation in the kinds and types of accounting reports among the various railroads."

NEW OFFICERS . . .
Bridge & Building Association

In the election of officers in the Bridge & Building Association, G. W. Benson, division engineer, Central of Georgia, was advanced from first vice president to president; John W. Lowry, chief engineer, St. Louis Southwestern, was moved up from second vice president to first vice president; E. R. Schlaf, superintendent of fire prevention, Illinois Central, was promoted from third vice president to second vice president; and H. A. Matthews, general foreman, bridges & buildings, St. Louis-San Francisco, a director of the association, was elected third vice president. L. C. Winkelhaus, retired architectural engineer, Chicago & North Western, was re-elected treasurer, and Mrs. Ruth Weggeberg was re-elected secretary.

New directors elected for three-year terms are: R. D. Hellweg, assistant regional engineer, Gulf, Mobile & Ohio, Bloomington, Ill., and F. W. Hutcheson, supervisor of bridges & buildings, Chesapeake & Ohio, Newport News, Va.

G. W. Benson
President-elect
Bridge & Building Association

Caring for electric switch heaters

By **Kenneth Weber,** Sales Engineer, Heatrex, Inc.

Unlike some types of heaters, electric switch heaters are left in place once they are installed. The closing of an electric switch is all it takes to put them in operation. However, the vibrations of traffic and the opening and closing of switches can affect their performance. For these reasons the author recommends an annual inspection and preventive maintenance.

● The acceptance by the railroad industry of electric heating elements for use as track switch heaters has prompted practically every manufacturer of these units to concentrate on proving new designs for better service, longer life, resistance to punishment by both the weather and railroad equipment, and improved performance.

This concentrated effort has resulted in the use of various types of units on many railroads. As a result an acute need has developed for a practical, low-cost care and maintenance program to assure not only optimum performance but longer life as well.

Fortunately for the user, most track switch heaters are enclosed in strong alloy steel tubing to absorb punishment after installation. There remains, however, the need to phase this equipment into a regular maintenance program much the same as any other type of equipment.

Our experience in dealing with most of the quantity users of electric track switch heaters indicates that an annual inspection of each installed heater is the most practical method of avoiding failures and subsequent loss of operating time and equipment. Obviously, this annual check should be made as early in the spring as possible so that corrective maintenance can be applied before a heater is accidentally destroyed or fails. Also, if a failure is discovered, it can be repaired or replaced prior to the winter season.

Following the location of heater damage that might have been caused by any of the seven danger points listed in the box, the switch heater maintenance program should call for the following remedial action:

(1) In repairing damaged heater sheaths, bent or buckled heaters can be straightened on the rail with a soft metal hammer or by the use of a pinch bar. Sheaths with cracks, breaks or worn sections cannot be economically repaired, and should be replaced.

(2) Open-circuit heaters cannot be repaired and should be replaced. This assumes that the cable is not defective and that the open circuit is actually inside the heater tube.

(3) Heaters with an insulation resistance of less than 600,000 ohms should have both terminal housings removed to expose the interior conditions. The cable connections should be removed to be sure that the low insulation resistance is not caused by defective cable or by a defective interior terminal part.

(4) Damaged lead cables can be replaced at the switch without removing the heater from the rail.

As with any planned care and maintenance program for electrical or mechanical equipment, the inspecting crew for electric track switch heaters should be prepared to repair, replace or clean any heaters discovered that fit into the previous outline. To do this, we recommend the following spare equipment:

(1) At least two spare heaters should be sufficient for small installations, and spares equal to three per cent of the total installed heaters are recommended for high-quantity installations such as classification yards.

(2) At least (number optional) cable sets and terminal fittings.

(3) Kits for cable repair. These can be ordered from the manufacturer of the heater, but any request must be accompanied by the identification number from the installed heater.

A continuing check by heater manufacturers with railroad maintenance officials indicates that correctly installed electric track switch heaters will give extremely long life if the suggested annual care and maintenance schedule is followed. Not only does the program assure better operation of the switches during the winter, but reduces heater failure from mechanical causes.

Check these seven danger points

Any maintenance schedule for electric switch heaters should include investigation of the following seven possible danger points:

(1) A section of each heater extends to the area where the movable switch point comes in contact with the stock rail. This is a place where the heater sheath can be damaged by the motion of the switch point, resulting in a pinched and/or a worn area exposing the heater insulation.

(2) At the time the electric heater is installed, the movable switch point may require grinding so that it cannot pinch the heater. As the switch is used, the edge of the point wears and a unit that previously had been given proper clearance will have this space reduced. At this area wear on both the switch point and the heater sheath should be checked.

(3) Particular attention should be given the location of the bolt heads and nuts on the switch as these may hammer the heater tube as the switch is operated.

(4) Section gangs may damage heater sheaths as they perform standard work with the ballast or ties. This may force the heater tube out of line so it is subject to damage by wheel flanges.

(5) The mounting clamps which support the heater tube might become bent or tightened and cause the tube to buckle and get into a position to be damaged by wheel flanges and switch action.

(6) The cable insulation should be checked for deterioration or damage.

(7) Two electrical checks are suggested. First, check heaters for open circuit, and, second, check insulation resistance on a commercial "megger." A minimum resistance of 600,000 ohms is suggested.

SNOW between tracks (below) is wasted by Hough Payloader equipped with rotary snow blower. At right same machine cleans snow from track at food terminal.

Fights snow with dual-

When winter comes on the Erie-Lackawanna an ore loading unit is turned into an effective snow-fighting machine, operating as a loader or blower. The same applies to another rubber-tired material-handling unit. Also, weed burners become snow melters and ballast regulators are converted into snow blowers.

● To a large extent snow fighting on the Erie-Lackawanna is a matter of adapting for this chore equipment that is used in the summer for other work.

During the winter of 1960-61 particularly, which was an extreme one in the territory served by the E-L, the road found it necessary to press into snow-fighting service a variety of different types of equipment.

Included were several types of rubber-tired material-handling units. One of these is a Hough Model H-120 Payloader, a four-wheel-drive tractor-shovel. During the summer this unit is equipped with a bucket and is used for handling ore. In the winter it may be used as either a snow-handling unit or a snow blower. Conversion of the Payloader for handling snow is simply a matter of enlarging the capacity of the bucket by adding extension wings. "A couple buckets full of snow make an ordinary load in a dump truck," says L. H. Jentoft, the E-L's assistant chief engineer maintenance of way.

Another rubber-tired unit the E-L has found useful for snow-fighting purposes is the Pettibone-Mulliken Speed Swing. With its Model 442 Speed Swing the road uses both a bucket and a snow thrower called the Pettibone Speedthrow. With this unit the snow is picked up by a 36-in auger and delivered to a curved chute that may be swivelled 360 deg.

Speaking of equipment like the Payloader and the Speed Swing, Mr. Jentoft has high praise for its ability to handle "snow of large quantities like we had in the Jersey City area last year. You can go right down a yard track, keep moving it across the yard or load it in cars."

Another type of equipment the E-L has found to have a snow-fight-

SIDING at Meadville, Pa., being cleared of snow by Jeep of type that is assigned to E-L track supervisors.

VIEW of siding after Jeep has passed. These units can also be used to clear snow from platforms in depths up to 12 to 14 in.

SPEED SWING equipped with snow thrower disposes of snow at mechanical shop (left). Below the same machine is shown clearing a track at Port Jervis, N. Y. Snow chute swivels through 360 deg.

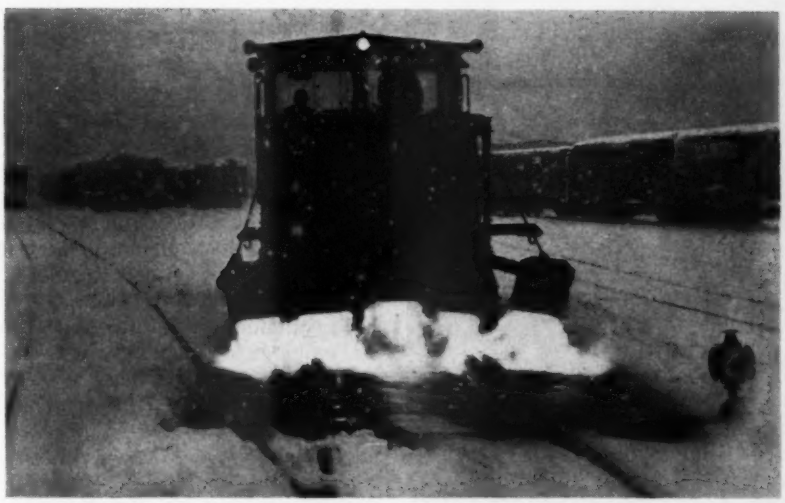
purpose machines

ing potential are the Jeeps it acquired for the use of its track supervisors. The road has 23 of these units. Each is equipped with a Fairmont Hy-Rail attachment, two-way radio and snow plow on the front end. The plow was provided originally with the thought that track supervisors with their operators, patrolling track in remote areas, might encounter difficulty getting through snow either on or off the track. During the heavy snows of last winter these units, says Mr. Jentoft, "came in quite handy in plowing station platforms."

The road has had similar experience with 50 trucks equipped with Hy-Rail attachments that were obtained for the use of the section forces. While the primary purpose was to make it possible for the foreman to get into remote places if he had to negotiate little-used roadways, such equipment will be drafted for cleaning driveways, etc., during snow storms.

Discussing other types of equipment with a snow-fighting potential, Mr. Jentoft mentioned the Fairmont weed burner and the Kershaw heavy-duty Ballast Regulator. The Fairmont weed burner, he said, "is a must in handling snow in the yards. It is a great labor saver and is one of the first pieces of equipment called to fight snow in heavy-duty yards." As for the regulator the road has several of them equipped with snow blowers, "which do an excellent job," he said.

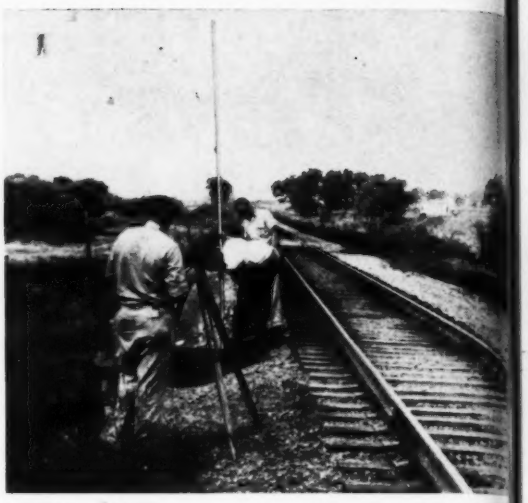
SEVERAL heavy-duty Kershaw Ballast Regulators equipped with snow blowers are doing "an excellent job." This unit was photographed working near Howard, Pa.



MELTING SNOW with Fairmont weed burner. This unit is rated "a great labor saver and is one of the first units of equipment called to fight snow in . . . yards."

They make complete situation surveys . . .

USING the east backwall as Station 5, the engineers chain 500 ft on each side of the structure for locating all physical property.



LEVELS are taken on caps of each backwall bent as w as on top of rails and natural ground on both sides.

IC uses engineering students

While most bridge engineers are familiar with every major bridge on their lines, they cannot be expected to remember every one of their timber bridges. Yet, when the latter come up for renewal, it is important for the bridge engineer to have sufficient information on hand on which to make a final decision so that monies for the work may be included in the budget. For this purpose, the Illinois Central likes to have situation surveys. What's different about these surveys is that they are made by civil engineering college students.

DRAWING, the final product of situation survey, is made in general office.

● The Illinois Central has almost 100 miles of timber trestles on its lines. Each year the system bridge inspectors find a few which they recommend for renewal, shortening or filling. However, before including the cost of this work for these structures in the budget, E. A. Johnson, IC's bridge engineer, wants to know certain facts about the existing structures. Do they have adequate waterway openings? Can they be shortened? Filled? Replaced with a culvert? Should their decks be raised?

To obtain this information, the IC employs civil engineering college students who have just finished their junior year. This the road has been doing since 1952. The young men are obtained from various colleges and universities. For example, the four employed during the summer of 1961 were from Princeton University, Iowa State College, Missouri School of Mines and the University of Illinois. They generally start work about the middle of June and work until about Labor Day. During the 1961 season the students worked from June 19 to August 31. In this period, they furnished notes and situation-survey drawings on 83 bridges.

The Illinois Central finds that this plan is advantageous in several ways. The main purpose, of course, is to make it possible for students to get acquainted with railroad work and railroad men with the hope that they will make railroading their careers, preferably with the IC. This hope has been realized in several instances and a number of the engineers currently employed by the road are former student engineers.

Also, because the division engineering forces have so much other work that requires more immediate attention, bridge-situation surveys for timber structures can be made only as work conditions permit. As a result, such information is not always made available to the bridge engineer as early as he would like. By employing the student engineers, the situation surveys are made earlier and the division forces are freed for more urgent work.

Another advantage in using these students is that the cost of making the surveys is held at a minimum. The student engineers are compen-

BENTS are "plussed in" to get their location. Pile stub locations also are noted.

NOTES are made of the general course of the stream, highwater marks, drift, etc.

GROUND LINE under structure is measured for waterway opening.

to survey its timber bridges

sated at approximately the road's rate for chainman. If the division forces had to make these surveys, higher rated men would have to be used. The student engineers are reimbursed for their expenses while away from their headquarters.

The undergraduate engineers work in teams of two, one pair being in the field while the other is at headquarters making drawings. They travel by train to either the town nearest the first bridge to be surveyed or the local division headquarters where a member of the division engineering force joins them, with a transportation vehicle and instruments, to make a party of three.

This party restricts its activities to the vicinity of the timber bridge. It does not run out drainage areas because, for the most part, this information is already available at system headquarters through topographic quadrangle maps and publications of the U. S. Geological Survey, or previous drainage-area surveys. If a drainage-area survey is necessary, it is made by the division engineering force.

The situation survey made by the students covers physical features of the bridge and of the track for a distance of 500 ft from each end of the bridge. It includes top-of-rail and natural-ground profiles, cross sections of the embankment near each end of the bridge and detail measurements of the bridge itself. If in double-track territory, the measurements are made for both tracks. No levels for topography are taken unless a bridge raise of over one foot has been proposed, in which case a sufficient number of cross sections of the embankments are obtained for computing the quantities of material involved. Measurements also are taken for plotting the streambed from 200 ft to 300 ft on each side of the bridge being surveyed.

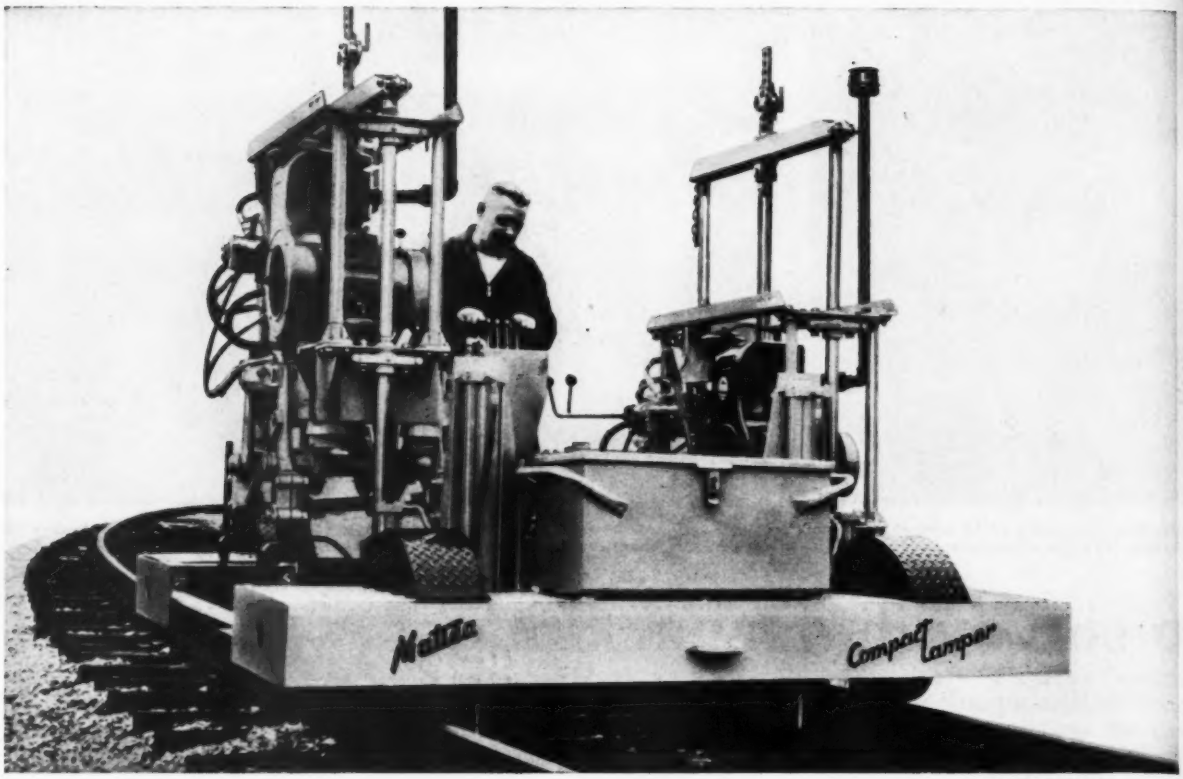
The student engineers have instructions to note and record any drift accumulations, scour holes, rock outcroppings and existing riprap protection. Information relative to the use of the structure as a cattlepass or undergrade crossing also is to be noted.

The securing of reliable high-water information is emphasized in the instructions. Also, if there is a highway or other railroad bridge nearby over the same stream, the engineers are instructed to measure the waterway openings, take elevations of the water levels to secure hydraulic gradient, and also to obtain high-water information with respect to these structures. If there are indications, or they are told, that these structures back up the stream so that it overflows, the extent of the overflow is to be obtained, if possible.

On each trip the student engineers stay in the field one week and make surveys at a number of structures. The following week they work in the bridge engineer's office in Chicago. Dividing the work between them, the students make drawings of the bridges surveyed. Elaborate drawings are not encouraged, the important thing being to keep the work simple but yet show all of the essential information.

In general, a situation-survey drawing includes a plan and an elevation of the bridge, a location plan, cross sections at each end of the bridge, and a profile showing both top of rail and natural ground. It also will include information relative to high water, number of piles per bent, number and size of timbers in each chord, guard-rail dimensions and rail weight and height. Where previous work has been done, such as double capping, pile posting, the driving of helper piles, riprapping, or where bracing is missing, such information is noted on the drawing. The locations of old pile stubs are likewise noted.

These drawings, along with the bridge inspector's recommendations and notes and the historical record of the structures, give the bridge department sufficient information on which to base a final decision as to what is to be done at each location the following year. They also give information that is helpful in making estimated costs for budget purposes.



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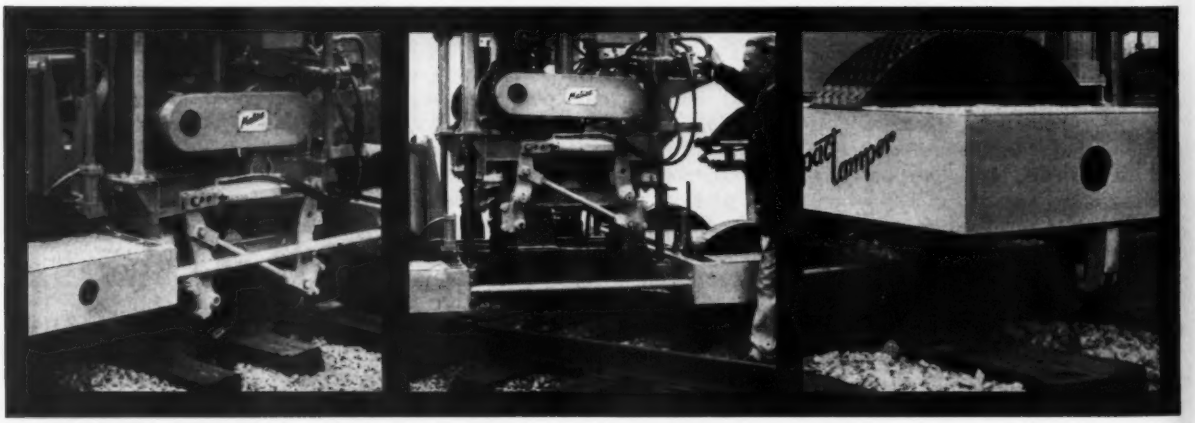
COMPACT POWER COMPACT PRICE



ONE-MAN OPERATION, INDEPENDENTLY CONTROLLED TAMPING HEADS. Fork-type tamping tools plus vibratory compaction allows fast penetration—even in highly cemented or foul crib conditions.

FAST SET-OFF. A large hydraulic jack located in the center of the Matisa Compact Tamper quickly lifts it clear of the rails. Machine is easily turned by one man onto set-off rails.

HYDRAULIC RAIL CLAMPS. "Ball Type" clamps raise the track to grade and cross-level. Clamps work independently or together. Note easily replaceable clamp "shoe" eliminates wear and replacement of entire assembly. Hydraulic jacks work independently or together in coordination with hydraulic, ball type rail clamps for lifting rail.

Now, the time-proven, fast vibrating-squeeze-tamping principle of the Matisa Tamper is available for spot-tamping and smoothing operations, same as on heavier production models.

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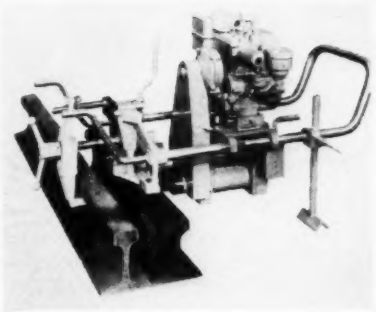


New clamping device for . . .

Rail drill

TWO major improvements have been incorporated in the 1961 model of the Racine portable rail drill. One is a new clamping device for holding the drill firmly on single rail or over guard rail and switches. The device, consisting of an extension screw and handwheel clamp, is claimed to provide automatic alinement of the machine. The other improvement has been added for safety. It is a ball-type torque clutch for protecting the drill bit and engine against overload on the bit. The portable rail drill weighs 165 lb and is powered by a 2¾-hp air-cooled engine. The engine has an operating speed of 2800 rpm. *Racine Hydraulics & Machinery, Inc., Dept. RTS, 2000 Albert St., Racine, Wis.*

(Circle 200 on TIME-SAVER card, page 51)

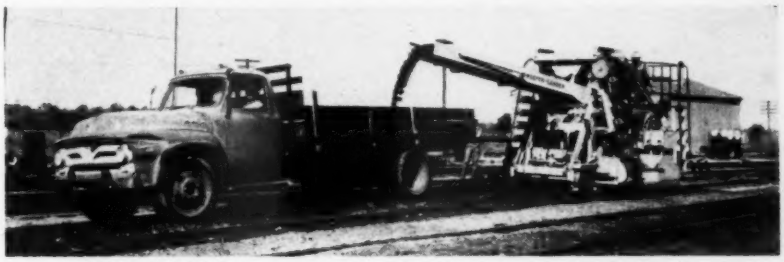
Transistors used for . . .

Rail flaw detector

WEIGHING only 5 lb, the new Branson Model TR-10 completely transistorized portable rail flaw detector is said to operate continuously for approximately 100 hr from three batteries. The unit consists of a handle which is equipped with a transducer at one end and a meter at the other and a headset for the operator. The length of the handle can be adjusted from 37 to 47 in so that the transducer will always make full contact with the top surface of the rail being tested.

The transducer consists of a piezoelectric material which converts the electrical pulses it receives from the electronic circuit into mechanical vibrations which are transmitted into the rail. The transducer also picks up returning vibrations and sends them back to the circuit for modification into visible signals, indicated on the meter, and audible signals, transmitted to the headset. A special Type Z crystal is used in the transducer because of its high sensitivity. The crystal is protected against wear by an aluminum oxide plate. The meter is calibrated so that the dial reading corresponds to the change of pitch in the headphone. The manufacturer states that this provides an indication of frequency unaffected by background noise or individual operator hearing. *Branson Instruments, Inc., Dept. RTS, 40 Brown House Road, Stamford, Conn.*

(Circle 201 on TIME-SAVER card, page 51)

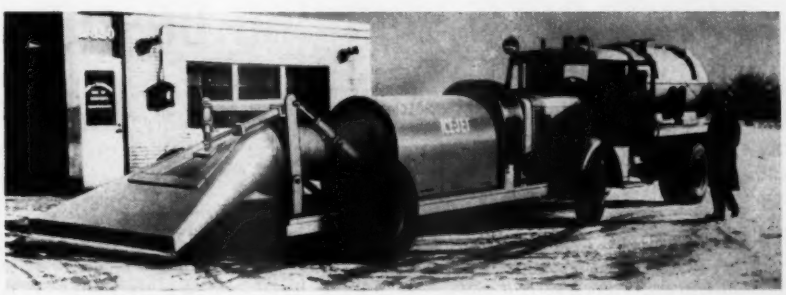


Clean yard tracks with . . .

Track broom-loader

DESIGNED primarily for cleaning yard tracks, the new Kershaw track broom-loader sweeps up material and loads it into trucks or cars. The unit utilizes a broom reel to sweep material, down to the tops of ties, into a bucket elevator system which in turn dumps onto a belt conveyor for loading either on-track or off-track equipment. The length of the conveyor-belt disposal unit is adjustable, permitting cars on an adjacent track, with centers up to 14 ft, to be loaded. The machine is equipped with scarifiers to loosen cemented material and blades to level the inter-track area. *Kershaw Manufacturing Company, Dept. RTS, 2205 West Fairview Ave., Montgomery 1, Ala.*

(Circle 202 on TIME-SAVER card, page 51)



Clean yard tracks with . . .

Snow blower

FAST AND EFFICIENT removal of snow and ice from yards, switches and parking areas is claimed for the Page-Littleford "Ice Jet." The device was jointly developed by the Page-Littleford Corporation and the New York Central and is based on the NYC's Jet-Snow Blower, which was placed in operation last year.

The Ice-Jet consists of a turbojet engine mounted on a rubber-tired trailer and a nozzle for directing the blast of air. The trailer is pushed ahead of a truck and is controlled hydraulically from the cab of the truck. Controls for steering the trailer, operating the jet engine and moving the nozzle are located in the cab. To facilitate snow removal the nozzle can be moved 15 deg in either the horizontal or vertical direction.

The new snow blower incorporates a feathering action which is designed to reduce snow banks at the edge of the area being cleared to a height of 18 in. The banks then are tapered upward for the next 15 ft until they reach a height of 30 in. *Page-Littleford Corporation, Dept. RTS, Cincinnati 2, Ohio.*

(Circle 203 on TIME-SAVER card, page 51)

(*More products on page 48*)

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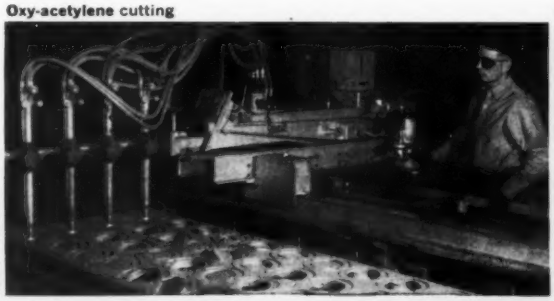

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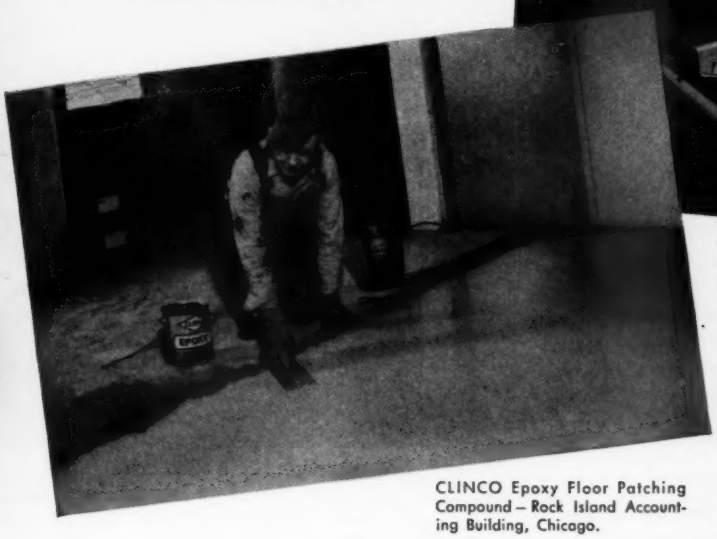

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Keeping bridge ties evenly spaced

What is the best way to keep bridge ties on an open-deck bridge evenly spaced and from bunching in the event of a derailment? Describe in detail.

Adequate guard rails

By R. I. Simkins
Assistant Engineer of Bridges
Atlantic Coast Line
Jacksonville, Fla.

On the open-deck bridges which I have examined after a derailment, there have been no bunching of ties. In each case the ties were 8-in by 10-in by 10-ft spaced on 13-in centers, with 5-in by 8-in guard rails secured to each tie by ¾-in diameter lag bolts 10 in long. There were also two metal guard rails spiked to the ties between the running rails. There were some rail anchors on the running rails. The ties were fastened to the steel spans with tie clips each eighth tie.

In view of this experience, it appears that the above measures are sufficient to keep the ties evenly spaced and to prevent their bunching during derailments. In general, I would say that close spacing of ties and adequate guard rails and guard-rail fastenings are the answer to the problem raised in your question.

Dapped guard rails

By A. B. Wang
B&B Supervisor
Monon
Lafayette, Ind.

We use 8-in by 10-in by 10-ft bridge ties with a 6-in by 8-in outer wood guard rail placed on each edge of the ties, 23 in from gage to the inside of the guard rail. Bridge ties are spaced on 12-in centers. Guard rails are dapped 1 in deep to hold the ties in place. We use ¾-in bolts spaced at each fourth tie to fasten the guard rail to the ties. Every sixth tie is fastened to the steel by hook bolts.

The inner guard rail is second-hand rail of a section just below the height of the running rail. Inner guard rails are fastened to the ties on tie plates every sixth tie. The gage of the running rail is 9 in from the nearest side of the inner guard rail. The running rail has tie pads.

The ends of the inner guard rails are fastened to guard-rail frogs placed at least 30 ft off the end of the bridge. We have found these frogs invaluable in deflecting hanging rigging.

With this type of deck construction we have found that ties hold in place under derailments. The wheels were held on one side between the running rail and the inner guard rail to such an extent that they do not touch the outer guard rail on the opposite side. The only damage is the nicking of ties, spikes and angle bar bolts.

Bolts and boat spikes

By V. N. Smedley
B&B Supervisor
Union Pacific
Portland, Ore.

Our open-bridge decks on the Union Pacific are designed for close spacing of our ties, not allowing more than 4-in spacing. We anchor every third tie with a bolt and use ½-in by 12-in boat spikes driven through an outside timber guard rail and into ties, between the anchor bolts.

These decks will usually carry a unit which derails and rolls on its wheels.

Combination spike-anchor

By A. R. Dahlberg
Supervisor Bridges & Buildings
Western Maryland
Hagerstown, Md.

We have enjoyed considerable success in keeping our bridge ties evenly spaced by the application of an anchor which serves the dual purpose of anchoring and spiking the rail to the tie. The anchors are applied four to a tie on every other tie. When properly applied, the tie becomes quite resistant to any movement induced by traffic or temperature. The remaining ties are spiked up in the conventional manner.

As the type of anchor we are using will perform its task for only that period of time that the timber remains sound under the tie plate, I believe it is imperative that a suitable tie pad be used to insure a tie-life commensurate with the additional cost of the anchor as well as the cost of timber framing and treatment. It would also be well to use some type of metal spacer bar in lieu of the wooden guard rail commonly used to supplement the function performed by the anchors. To provide additional holding power, the spacer bar should be fastened to the tie by means of a screw spike rather than the conventional bolt or boat spike. The long-range economy and efficiency to be realized through the use of such a spacer bar far outweigh the higher cost.

The preceding discussion is valid only for conventional jointed rail and does not apply to welded rail.

Uses spacer blocks

By V. W. Hutchings
B&B Supervisor
Southern Pacific
Bakersfield, Calif.

We on the Southern Pacific have tried numerous methods to keep ties on open-deck bridges from bunching. The method we use now is the only sure way that I know.

We have a standard plan which calls for spacer blocks. Our ties are spaced 4 in apart, so the spacer is 4 in by the depth of the tie by 1 ft 4 in. These blocks are pre-bored with 5/16-in holes for 6-in wire spikes. They are fastened to the ties, and rest on the top of girder on deck-plate girders, and on top of stringers on through-girders, with one end under the guard timber. We also use a ½-in by 10-in boat spike through the guard timber in all ties that are not bolt anchored.

(*Please turn to page 42*)

Results of weed control with one application of Du Pont "Karmex". This Reading Company yard in Philadelphia was sprayed in early spring, and this picture was taken in August. Untreated control-test area at right shows type of growth controlled.

How Du Pont Weed Killers give long-lasting results . . . at "least-cost"

Many railroads have found the key to a long-lasting weed control program at "least-cost". Time after time, it is Du Pont "Telvar" monuron or "Karmex" diuron weed killer. In large-scale applications by individual roads and repeated tests by the Association of American Railroads, chemical combinations that include these products continue to outperform other chemicals and chemical combinations used for weed control.

Even so, a good chemical isn't the whole answer. Weed control results can be influenced by many factors since you are dealing with nature under conditions that seldom are twice alike. This means you need the right "prescription" to do the job right.

In some weed control programs, other Du Pont products should be prescribed, too. New Trysben® 200 weed killer is excellent against bindweed and other tough perennials. Dybar® fenuron weed and brush killer (handy to apply because it comes in pellets) may be what's needed for brush. And for areas near land that's planted to sensitive crops, Ammate® X weed and brush killer is ideal for brush control because it is non-volatile.

Our specialists have a wealth of weed control experience for the railroad industry. If you would like their help in planning a program that can give you long-lasting results at "least-cost"

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Removing rusted bars and bolts

Frequently when taking up track which has not been used for years, joint bars will be found to be rusted solidly to the rails. How can such bars be removed? Explain. What is the best way to remove badly rusted nuts and bolts?

Pry, then hit rail

By H. V. Borst
Track Supervisor
Delaware & Hudson
Carbondale, Pa.

The nuts must be removed first. If they are badly rusted a nut-runner cannot be used. An oxyacetylene torch should be used to burn off the nuts. If they are badly covered with dirt or rust, hitting the nuts with a hammer to remove rust will speed up the cutting. After the nuts have been removed, the bolts should be driven out far enough to loosen the heads from the joint bars. It is not necessary to drive them all the way out.

If one man is working alone, he should use a 10-lb sledge, striking the rail sideways on each end of the joint, first on one side and then on the other. If this does not work, he should try driving a spike or chisel into the opening between the end of the bar and the web of rail, to wedge the bar out, and then continue hitting the rail as stated above. If this is too slow, then two men should be used. One man should use a pinch bar inserting it between the end of the joint bar and the web of rail to force the bar out, while the other man hits the rail as stated above. The spikes should be removed first so the rails are free. It does very little good to hit the joint bars themselves.

Suggests air tool

By G. P. Michael
Track Supervisor
Chesapeake & Ohio
Clifton Forge, Va.

We have not found an easy way to remove rusted bars and bolts from rail.

Bolts can be removed fairly easy, if the rail weight is 90 lb and up, by using bolting machines, adjusting their tension so as to remove nuts or twist bolt in two.

For smaller rail weighing from 56 to 90 lb, the bolting machine is not advisable. It would be difficult to find chucks for the machine to fit this size bolt head. Even if found, there is the problem of the bolts turning in the rail joints. Therefore, we find the easiest and most economical way to remove the bolts in the smaller rail is by burning them with an acetylene torch.

The task of removing bars is one of our biggest problems. The best way to do it, in my opinion, is to use a claw bar or some similar tool, applying it between the angle bar and rail, pinching outward and at the same time striking the bar with at least a 10-lb hammer. Usually the bar will be jarred loose fairly easy. But, should you have several miles of track to retire, I think an air-powered spike driver or a jack hammer would be excellent for driving a chisel-type tool behind the bar.

Raise above ground

By W. J. Gill
Roadmaster
Denver & Rio Grande Western
Denver, Colo.

When taking up track which has not been used, or in some cases tracks which have been in use but are buried, such as at warehouses or through streets or platforms, joint bars that are rusted solidly to the rails usually can be removed after the bolts are removed by picking up the rails either with a track jack or a crane and striking a solid blow on the bars with a sledge hammer.

The most effective and economical method of removing the bolts is with an acetylene cutting torch.

The foregoing is said with the assumption that the rail and joint bars are to be re-used. If not, then it is more economical to cut the rail with an acetylene torch into lengths that can be handled into the scrap pile and pay no attention to the joints.

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Avoiding signal shunting from full cribs

Some signal maintainers complain that the use of a track broom sometimes causes the cribs to be filled with ballast to the tops of ties and causes shunting. Do you agree? How can full cribs be avoided? Explain.

Must be ballast

By N. C. Kieffer, Jr.
Division Engineer of Construction
Louisville & Nashville
Latonia, Ky.

I have known of a number of cases where the track was filled to approximately the top of rail with new limestone ballast. This condition existed for as long as three weeks without complaint from signal maintainers. A ballast equalizer with broom attachment, was operated over the track to cut out the excess ballast and sweep the track clean. After this operation there

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In addition, R-H-B SOIL STERILANT both kills present growth and prevents new growth. Each granule is light, yet contains a saturation of chemicals, whose powerful action releases gradually, penetrates on contact with soil.

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In a gang installing 8,000 or more anchors per day, two Racine Anchor Applicators save *at least* 48 man-hours daily . . . even hundreds of hours, if you normally use your entire re-lay gang to "close up" at end of a day.

One-man operated Anchor Applicator applies Fair, Gautier, Woodings, Tru-Temper, Unit, M & S, and Reliance Anchors. Powered by 18 hp gasoline engine, it is hydraulically propelled tie-to-tie, or up to 15 mph. It can be set-off or turned around in minutes with built-in power lift.

Anchor Tightner attachment applies pressure simultaneously inside and outside the rail to bring anchor into full contact with tie.

Resets old anchors, too

In about an hour you can convert your Applicator to reset old hand-applied anchors with an Anchor Tightner. It moves anchors tight to ties without scoring, gives you rail stability nearly that of a new installation.

RR-119

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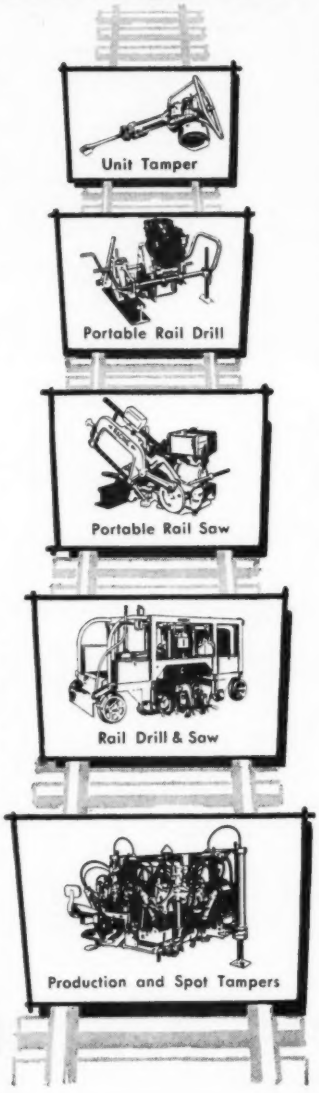

What's the answer? (cont'd)

were no complaints of shunted track

The fact that the track was full of ballast for a period of time and that an equalizer with broom was used indicates that there is another factor causing the shunted track. In my opinion the cause of shunted track is in the ballast. If the ballast is of the type of material that is a good conductor, this will cause shunted track after a rain if the cribs are full to the top of tie.

Clean under rails

By J. R. CARDEN, SR.
General Track Foreman
Southern Pacific
Wells, Nev.

I personally do not agree that track brooms cause or contribute to the shunting of track where crushed rock is used.

Not forgetting that rock or slag ballast that has been crushed, screened and washed before being stock piled, then later moved to work site and dumped, ballast is insulating in itself.

From a practical viewpoint, I think cribs should always be filled to the top of the ties. First, if cribs are kept full, the ties will become more stabilized and will not skew under traffic. Second, full ballasted cribs prevent ties from becoming crushed or broken in many instances where dragging equipment or one or more cars of a train may derail and the train may go for some distance before coming to a complete stop. Under such conditions, derailments cause very little damage other than marked ties. If cribs are not fully ballasted, the ties may be totally damaged to the extent that they will have to be replaced.

Make inspection first

Before attempting to do out-of-face work, an inspection should be made to determine the height of raise necessary. The ballast should be so dumped as not to exceed the raise intended. Ballast should be distributed uniformly so as to avoid an excessive amount of moving with a ballast equalizer and broom.

With the modern equipment we have today, a light surface up to 2 in requires very little ballast. The

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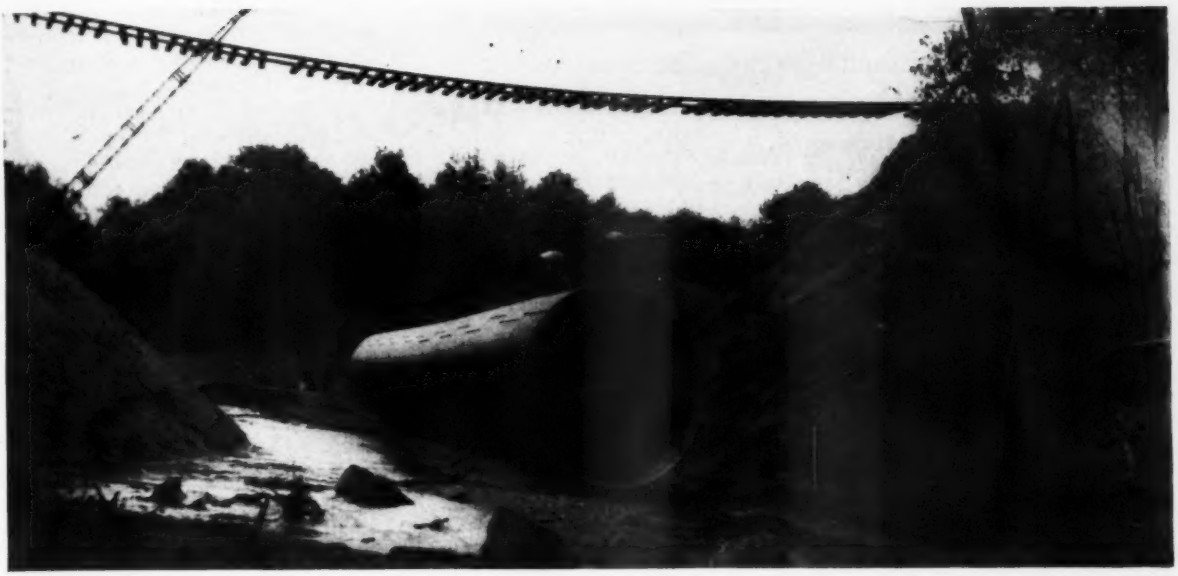

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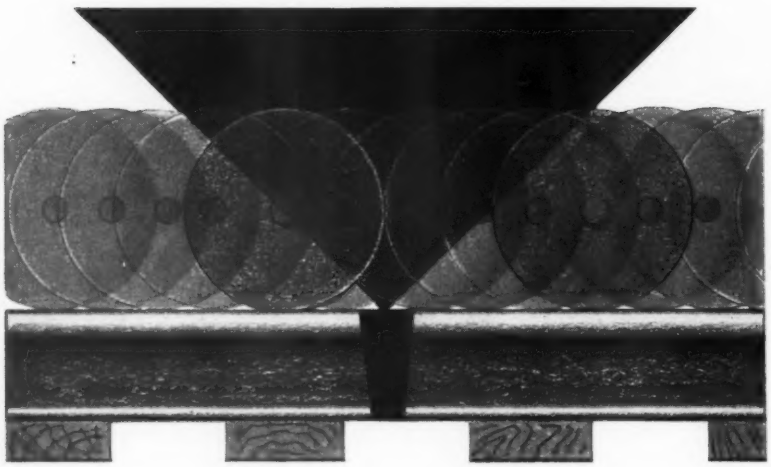

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What's the answer? (cont'd)

ballast at the ends of the ties in many instances is sufficient, where the ballast equalizer is used ahead of the surfacer, to permit bringing the material up from the sides. By making a light spread of ballast down the center of the track ahead of the surfacer, the cribs in the center will require very little finish work behind the surfacer when using the modern equalizer with broom attachment.

If ballast is allowed to become fouled between the track to the point where silt, sand or foreign material reach the base of the rail, only a very little moisture will cause the current from the track circuits to leak through, causing track to shunt out. However, this should not be attributed to the ballast equalizer broom. The material should be cleared from between the cribs to a couple inches below the base of the rail or the track surfaced to eliminate the cause.

Not by full cribs

By C. M. Spyres
Roadmaster
Kansas City Southern
Shreveport, La.

On my territory we use five different types of ballast; namely fine chat, coarse or grade "A" chat, fine slag, coarse slag, and crushed rock. None is more than 1½ in. in size. At times the ballast has remained in the track for a considerable length of time during both snow and rainy weather without causing shunting.

I do not agree with signal maintainers that a track broom causes cribs to be filled with ballast. Recently we unloaded a considerable quantity of ballast over my district ahead of a surfacing gang where the ballast was shy. Over a portion of this we operated a Fairmont W-23 Series A Ballast Maintenance Car, first plowing out all of the surplus ballast between and outside of the rails, then using the broom to remove all other ballast that we were able to remove. The broom removed the ballast from the cribs to approximately 1 in below the tops of the ties, with the exception, possibly, of that portion under and about 8 in on each side of both rails which the broom could not engage.

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What's the answer? (cont'd)

This, of course, had to be removed by other means.

As to the cribs being filled with ballast to the tops of the ties and causing shunting of signals, possibly some types of ballast, weather condition, or certain kinds of circuits would cause shunting.

Avoiding full cribs

How can full cribs be avoided? The best way I know of is to use a Fairmont W-23 Series A Ballast Maintenance Car with a track broom, plowing out the surplus ballast first, then using the track broom to get the remainder with the exception of that which is under and alongside the rails and cannot be reached with the broom. This surplus can be removed with shovels.

There are other machines which will do the same work as the Fairmont, no doubt, but this machine is the only one I have had occasion to use, hence my reason for mentioning it.

Products

(*Continued from page 37*)

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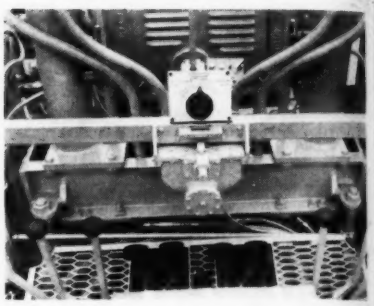
CLAIMED to be industry's most compact 60-hp engine is a new valve-in-head air-cooled V-4 unit designated Model V-460D. This engine meets power requirements ranging from 36 hp at 1400 rpm to 60.5 hp at 3000 rpm, and develops 1650 in-lb of torque at 1600 rpm. It has a displacement of 154 cu in, features a 7.1:1 compression ratio, and weighs 521 lb.

The new engine is designed for a variety of self-propelled, portable and stationary applications. It is said to be only a fraction of an inch larger dimensionally than other engines delivering from 50 to 40 per cent less power. Field tests reportedly indicate the valve-in-head design and higher compression afford greater economy with regular gasoline. This combination is also said to provide cooler and more efficient performance in sustained service under severe conditions and at temperature extremes, to extend engine life and to simplify servicing. *Wisconsin Motor Corporation, Dept. RTS, Milwaukee 16, Wis.*

(Circle 204 on TIME-SAVER card, page 51)

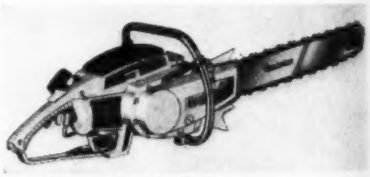


For Super Jack-All . . .

Leveling device

A NEW automatic electronic cross-leveling device has been developed for use with the Kershaw Super Jack-All. Designated the Auto Level, the device is designed automatically to bring the opposite rail to the same elevation as the grade rail. In addition, superelevation can be accomplished by setting a dial located in the operator's compartment. *Kershaw Manufacturing Company, Dept. RTS, 2205 West Fairview Ave., Montgomery 1, Ala.*

(Circle 205 on TIME-SAVER card, page 51)



New "Super 75 G" chain saw

Sustained power in . . .

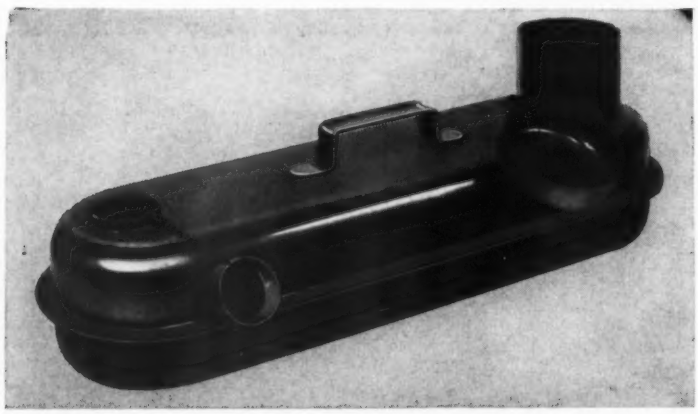
Chain saws

A NEW Remington line of five models of gear-driven chain saws has been announced. The five new saw models, designated "Bantam G," "Bantam GP," "Bantam Special G," "Super 75 G" and "Super 75 GP," are designed to deliver sustained power output under heavy work loads.

All models feature a new "Power Drive" transmission which is said to give exceptionally smooth flow of power with minimum vibration. A variety of guides is available. *Power Tool Division, Remington Arms Company, Inc., Dept. RTS, Bridgeport, Conn.*

(Circle 206 on TIME-SAVER card, page 51)

(*More products on page 50*)



NEW SWITCH HEATER BURNS 4 DAYS WITHOUT REFILLING or MAINTENANCE

The advanced design HI-BALL, original oil burning switch heater developed by the Mississippi Supply Company, Chicago, is still considered the finest switch heater available.

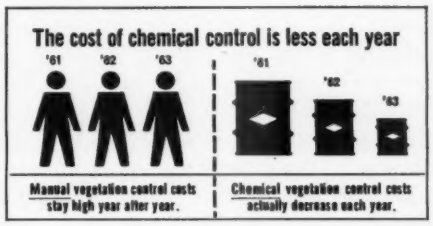
The latest refinement of the HI-BALL is its greatly increased capacity, which allows greater freedom for work schedules—no need to attend switches on week-ends. Never a "flame-out" with the original HI-BALL patented chimney.

For more information, write—

MISSCO **MISSISSIPPI SUPPLY COMPANY**
27 WEST CALENDAR AVE., P.O. BOX 233
LA GRANGE, ILLINOIS

Open up "blind crossings" with
DOW WEED AND BRUSH KILLERS

Easiest, most inexpensive way to restore visibility along right-of-ways is with Dow Weed and Brush Killers. Costs actually decrease each year! And you eliminate the danger and delay lurking along your right-of-ways wherever brush and weeds hide crossings, interfere with signals and switches, or invade ballast and berm.



Dow will help you plan a vegetation-control program tailored to your needs . . . one that can save over half the expense of hit-or-miss manual methods. Compared to the time and labor involved in hand-cutting and mowing (which only offer temporary control at best), a chemical program actually decreases in cost year by year, while its application becomes easier.

Dow tailor-makes chemicals for every vegetation problem. *Ballast and berm:* Low-cost Radapon® kills grasses, tops and roots; Kuron® or 2-4 Dow® Weed Killer, Formula 40® controls broadleaf weeds. For longer residual control, these products may be used in combination with soil-sterilant type products.

General broadleaf weed control: Kuron, 2-4 Dow Weed Killer, Formula 40, Esteron Ten-Ten®. *Brush control:* Veon® 245, Esteron® 245 O.S., Kuron. *Signals, switches, yards and bridges:* Baron® or Garlon® for both broadleaf weeds and grasses.

For full information on this service and chemicals, write THE DOW CHEMICAL COMPANY, Abbott Road Buildings, Midland, Mich., Attn: Agricultural Chemicals Sales Dept.

THE DOW CHEMICAL COMPANY DOW Midland, Michigan

Telescopic boom on . . .

Truck crane

THE TR-12 crane is a 12-ton truck-mounted unit carried on a 1066CX crane-carrier chassis. The boom telescopes hydraulically from 16 to 40 ft under load and has a maximum hook clearance of 44 ft from the ground. The turntable winch, boom-operator's station and counterweights rotate 360 deg. The operator's cab is on the turntable to the left of the boom for providing full visibility.

Special attachments also are available. These include hydraulic clamshells, jib booms, hydraulic hammers, snow scoops, wheel tongs and others for increasing the versatility of this machine. These units also are available in a capacity of 6 tons and may be mounted on any suitable truck chassis. *Grove Crane Sales Company, Dept. RTS, Box 166, Windsor, Conn.*

(Circle 207 on TIME-SAVER card, page 51)

Reach inaccessible spots . . .

Pack-type sprayer

MORE effective use and savings in weed-killing chemicals are claimed for a knapsack-type sprayer. Designated the Mistblower "Solo," this unit consists of a 2-cycle, 3-hp combustion engine which, with attachments, weighs about 27 lb. The chemical liquid is atomized by a strong air current traveling at a speed of 250 mph. The same air current which atomizes the liquid also serves to cool the unit. Powder and dust insecticides may also be used with the Mistblower by attaching a duster tank in place of the liquid tank. The unit, it is said, may also be used as a flame thrower and burns regular fuel oil for killing weeds as well as to melt snow in winter. *Sol-Kraft, Inc., Dept. RTS, Long Island City 1, N. Y.*

(Circle 208 on TIME-SAVER card, page 51)

●

Protect gears with . . .

New lubricant

A NEW gear lubricant is available which is contained in a 16-oz pressurized can. Known as Spray Open Gear Loob, it was designed to protect gears from excessive rust, wear and the elements. The material was developed for such equipment as cranes, crushers, drills, grinders, mixers, presses, shovels and winches. The manufacturer states that Spray Open Gear Loob will lubricate hard-to-reach areas quickly and easily without loss of the lubricant. It is applied with the can in an up-right position after the contents is shaken well. *Spray Products Corporation, Dept. RTS, Camden 1, N. J.*

(Circle 209 on TIME-SAVER card, page 51)

S-T-R-E-T-C-H
Your Maintenance of Way
BUDGET DOLLARS
By Using
SPENO Ballast Cleaning Service
Rail Grinding Service
Our contract arrangement for these services obviates the necessity for any capital investment on the part of the Railroads and protects them as to cost for this type of work.
We have been servicing the Railroads continuously for over 45 years and have yet to lose a customer.
THERE MUST BE A REASON FOR THIS
Just Ask the Railroads That have used us!
FRANK SPENO RAILROAD BALLAST CLEANING CO., INC.
Clark Street, East Syracuse N. Y.
306 North Cayuga St., Ithaca, N. Y.

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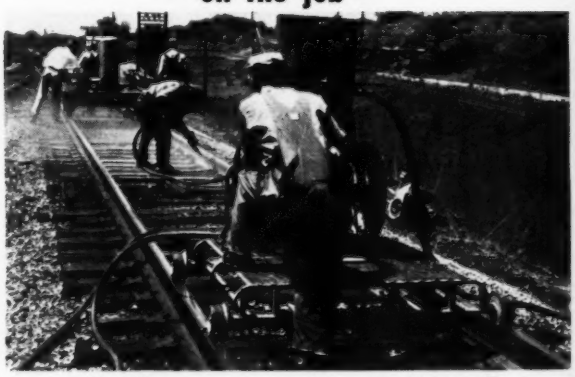
on the job—



wherever the job is!
Many places along your right of way are impossible to reach by truck. The Nolan Tool & Supply Car enables you to get there quickly, easily, economically.
Safely handles loads to 2000 lbs. All tubular high-carbon steel construction for trouble-free service. The deck is heavy mesh-expanded steel. Removable handle can be used at either end. Ball bearing cast steel wheels.
Platform Size 48" x 45"
Height Above Rail 8"
Weight 140 lbs. complete

NOLAN Tool and Supply Car easily carried from truck to track.
FREE complete NEW catalog shows entire NOLAN railway supply line.
THE NOLAN CO., 166 Pennsylvania St., Bowerston, Ohio

TIME-SAVER READER SERVICE

Use these cards ➧

- **For product information**
- **For free literature**

Check over the items below and on the other side of this page. They refer to products described or advertised in this issue, or to free literature offered by manufacturers. If you desire additional information about any of the products, or copies of the literature, circle the corresponding numbers on one of the cards, and drop it in the mail after typing or printing your name, etc. With one card you can get information on all the items listed.

Products offered by advertisers

100. Q&C Compromise Joints—Reinforced at center to provide rail-end durability. (Page 2)

101. Winter King Switch Heaters—Says kerosene-burning units burn up to 15 hr. (Page 3)

102. Jackson Track Maintainer—Offers information on this production tamper. (Page 4)

103. Model W99 Series B Spot Tamper—Self-propelled unit has four air-actuated guns. (Page 6)

104. Fairmont Oil Sprayer—Portable, compact Model W72A sprays oil on rail joints. (Page 6)

105. Model W64 Series A Derrick Car—Unit designed to lift 1½-tons with boom at 13 ft. (Page 6)

106. Hydraulic Spike Driver—Unit drives spikes for both rails or both sides of one rail. (Page 6)

107. Concrete Shell Roofs—Describes how ACL built a passenger shelter for $1.65 psf. (Page 8)

108. Nordberg Trak-Surfacer—Points out four advantages of wire-type unit for raising track. (Page 9)

109. Lock Spikes—Different versions are offered as hold-down, rail and gage spikes. (Page 10)

110. M&S Rail Lubricator—All moving parts of grease-type unit are self-lubricated. (Page 11)

111. M&S Rail Anchor—One-piece unit is made from heat-treated, spring-steel bars. (Page 11)

112. M&S Switch-Point Protector—Can be quickly installed by means of clip bolts. (Page 11)

113. Chicago Pneumatic Tools—Air compressors, impact wrenches, chippers, etc. (Page 12)

114. Equipment Maintenance—Gives four-point program for reducing maintenance costs. (Page 14)

115. Auto-Spiker—Automatically feeds spikes to each of four guns on RMC SpikeMaster. (Page 16)

116. Joint Surfacing Device—Detects low spots by means of two 14-ft aluminum beams. (Page 16)

117. BoltMaster—Says unit tightens 3 to 4 joints per minute with a single operator. (Page 16)

118. McWilliams Ballast Distributor—Ballast cleaning attachment is available. (Page 16)

119. RMC Tie Spacer—Says unit is effective for unraised track or out-of-face work. (Page 16)

120. Ureabor 31—New granular combination of three weed killers for dry application. (Page 19)

121. Protective Compounds—Describes Texaco compounds for ties and metal surfaces. (Page 20)

122. Edison Switch Lamps—Points out advantages of installing electric units. (Page 23)

RAILWAY TRACK & STRUCTURES — October, 196

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I have circled the numbers of the products or literature I am interested in.

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130	131	132	133	134	135	136	137	138	139	140	141	142	143	14
145	146	147	148	149	150	151	152	153	154	155	156	157	158	15
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Company _____

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READER SERVICE DEPT.

TIME-SAVER Reader Service cont'd

123. Precast Concrete Products—Cribbing, pipe and prestressed beams available. (Page 24)

124. Compact Tamper—Has independently controlled heads for spot tamping, smoothing work. (Page 36)

125. Track Welding—Offers services and equipment for all maintenance-of-way welding. (Page 38)

126. Epoxy Compounds—Lists Clinton specifications for various applications. (Page 39)

127. Weed Control Programs—Offers services for planning complete control programs. (Page 41)

128. R-H-B Soil Sterilant—Weed killer can be applied by hand or power spreader. (Page 43)

129. Racine Anchor Applicator—Self-propelled "Anchor-Fast" exerts 1000 lb of pressure. (Page 44)

130. Exoweld Rail-Welding Process—Uses self-contained kit for joining rails. (Page 46)

131. Weed Control Service—Points out services available to railroads. (Page 47)

132. Pot-Type Switch Heater—Says Missco "Hi-Ball" burns four days without refilling. (Page 48)

133. Vegetation Control—Offers to help plan programs tailored to individual needs. (Page 49)

134. Rail Grinding Service—Contract arrangement obviates need for capital investment. (Page 50)

135. Tool and Supply Car—Tubular steel unit weighs 140 lb and has a capacity of 2000 lb. (Page 50)

136. Sliding-Joint Rails—Uses a wing rail to relieve welded-rail expansion, contraction. (Page 53)

137. Model COE Weed Burner—Has five burners that can be used separately or together. (Page 55)

138. CampCars—Says highway-type housing units pay for themselves in about a year. (Page 56)

139. Gautier Rail Anchor—Applied by hand or machine. Says anchor cannot be overdriven. (Page 57)

140. In-Place Treatment of Timber—Offers service for prolonging life of wood bridges. (Page 58)

141. Spray Starting Fluid—Start engines in temperatures down to 65 deg below zero. (Page 58)

142. Model 40 Burro Crane Ditcher—Has long digging radius for ditching and loading cars. (Page 60)

143. Railway Spring Washers—Designed for use at joints, frogs, switches. (Inside back cover)

144. Compression Rail Anchors—Says units prevent movement in either direction. (Back Cover)

Free literature offered in advertisements

145. Rail Lubricator—American Car & Foundry Division will send literature on its M&S grease-type rail lubricator. Also on its M&S one-piece rail anchor (No. 146 on card), and M&S switch-point protector (No. 147). (Page 11)

148. Lubrication Guide—Gulf Oil offers 88-page illustrated booklet on the lubrication and maintenance of engines, air tools, wire rope and earthmoving equipment. Railroad men will find information very helpful. (Page 14)

149. Clinco Epoxies—Folder and specifications are available on coatings and mastics. (Page 39)

150. Weed and Brush Killers—New booklet is available on Du Pont chemicals. (Page 41)

151. Armco Construction Service—Will send catalog describing company's services. (Page 45)

152. Supervisory Training—Offers folder describing home-study course for railroad men. (Page 54)

153. Ka-Mo Air Drills—Bulletin available on line of drills for finding trouble spots, and drilling for drains, cast-in-place piling. Also hydraulic drills (No. 154 on card), gasoline (No. 155) and electric (No. 156). (Page 59)

Items described in Product Section

200. Racine Rail Drill—Portable unit incorporates new clamping device. (Page 37)

201. Rail Flaw Detector—Branson Model TR-10 portable unit is completely transistorized. (Page 37)

202. Track Broom-Loader—Sweeps up material from yard tracks and loads into cars. (Page 37)

203. Snow Blower—"Ice Jet" consists of turbojet engine mounted on rubber-tired trailer. (Page 37)

204. Wisconsin Air-Cooled Engine—Model V-460D develops 1650 in-lb of torque at 1600 rpm. (Page 48)

205. Automatic Electronic Cross-Leveling Device—Designed for Kershaw Super Jack-All. (Page 48)

206. Remington Chain Saws—Five new models of gear-driven units are available. (Page 48)

207. Model TR-12 Truck Crane—Boom of 12-ton unit extends hydraulically to 40 ft. (Page 50)

208. Pack-Type Sprayer—Uses 250-mph air current to atomize weed-killing chemicals. (Page 50)

209. Gear Lubricant—Spray "Open Gear Loob" is contained in a 16-oz pressurized can. (Page 50)

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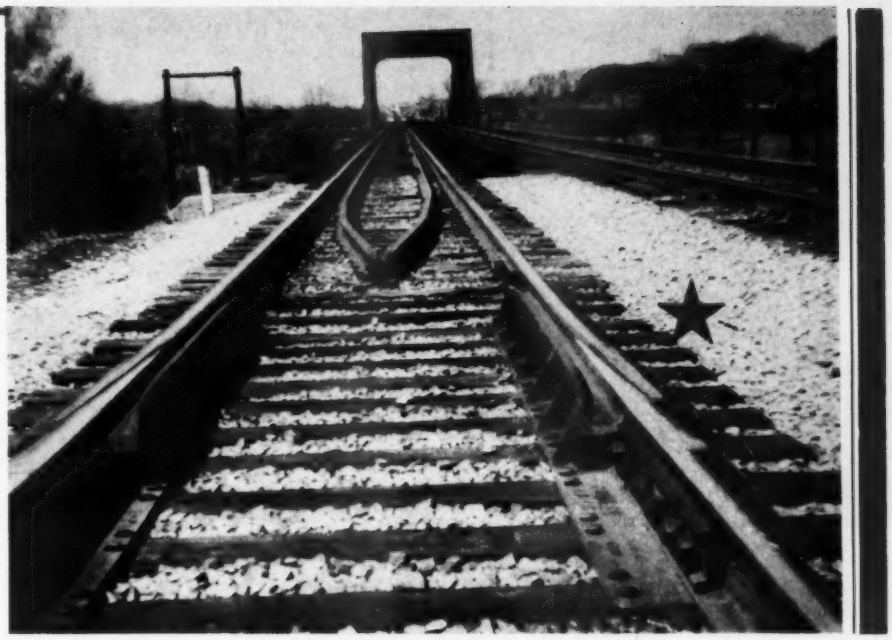

● The Conley Sliding Joints use a wing rail to relieve welded rail track expansion and contraction, which frequently causes track buckling, spreading, spike pulling, pull-aparts and other damages that interrupt traffic.

● The Conley Sliding Joints respond automatically to temperature changes that affect welded rails. They relieve rail expansion in hot weather and contraction in cold weather.

Take a good look at the above photo. It shows you how the Conley Sliding Joint wing rail moves to relieve expansion or contraction of welded track. The units require practically no maintenance.

–' Takes Care of

★ Welded Rail Expansion

"Born" to fulfill a specific need; engineered for dependable operation and built for lasting ruggedness, Conley Sliding Joints effectively and positively compensate for the expansion and contraction of welded track rails. They adequately and fully meet every requirement for today's (and tomorrow's) heavy, high-speed traffic.

The Conley Sliding Joint installation pictured above shows the heavy wheel tread provided at all times regardless of how much expansion, or contraction is taking or has already taken place. These sliding joints with extra heavy wheel-guide rails, weigh over 2,400 pounds each. These are built-in features that leading track engineers and maintenance men will understand fully and endorse.

Each unit is complete within itself. Each one functions independently of the other. Each is fully automatic and responds solely to the variations induced by temperature changes—whether hot or cold. These joints are non-freezing, non-binding, non-locking and non-buckling. The sliding wing rails move only, if and when temperature changes require relief of rail expansion or contraction.

Use Conley Sliding Joints on trestles, curves or in other critical locations where rail expansion and contraction must be relieved to prevent track damage. Write or call for further information, specifications and engineering data.

SLIDING JOINT RAILS

Completely Automatic — Temperature Controlled

★

Our engineering, manufacturing and installation advisory services are offered gratis and without obligation.

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Get Bigger Results...

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Now you can take a big step forward to improve human relations and solve operational problems... keep jobs running smoothly and efficiently... with the aid of a carefully developed training program for supervisors and for men preparing for supervisory work.

To meet the growing demand for just such a training program, a brand new two-year course in the fundamentals of supervision has been designed especially for railroad men by the Railway Educational Bureau.

Here you have a home study course based on a highly specialized series of texts covering the latest methods of supervision. The first half deals with the human side of supervision; the second with the material side (costs, planning, etc.). Designed especially for railroad men, it is prepared in *railroad* language, deals with actual *railroad* situations.

Railroad executives and department heads now can train designated personnel at moderate cost. The intensive two-year course includes library and consultation service. Order today or send for more complete information and price schedule.

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☐ I would like to order the Railway Educational Bureau supervision course for _____of my employees (list of names attached.) Send me full particulars, including cost involved.

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New books

Pressure Treated Timber Foundation Piles for Permanent Structures—Edited by C. Miles Burpee. 63 pages, including illustrations, tables, charts. Published by the American Wood Preservers Institute, 111 West Washington St., Chicago 2. $1.50.

This is the second edition of a book that first was published in 1955. Its purpose is to provide engineers, architects and builders with helpful basic detailed information relative to the use of pressure-treated timber piles. The book consists of reports and articles prepared by experienced engineers.

Subjects covered in the book include universal use of timber piles, risks involved in using untreated timber piles, permanence, how to specify, foundation design and driving data and good practice in pile driving. In addition, the book tells of the acceptance of pressure-treated timber piles by various agencies of the federal government and other organizations. Among the latter are the AREA, AASHO, ASCE and the four national building codes. A separate article tells how to specify treated timber piles. It gives ASTM requirements for selection of timber, classification of piles and AWPA standards for creosote, pentachlorophenol and preservative treatment by pressure processes.

Five articles give the results of loading tests made at different locations in the United States. One of the articles shows that under certain conditions timber piles can safely carry loads up to 50 tons.

Association news

Metropolitan Maintenance of Way Club

The first meeting of the season will be held on October 26 at the Railroad-Machinery Club, 30 Church St., New York. The principal speaker will be Roger Sonneville of France who will discuss the use of concrete ties throughout the world. Dinner will be served at 6:30 pm, preceded by the usual social hour.

Mississippi Valley Maintenance of Way Club

The next meeting of the club will be held on October 9. Principal speaker will be Freeman P. Drew, assistant research engineer of structures, Association of American Railroads, who will talk on "Potentials of Epoxy Resins in Track and Structures." The social hour will commence at 6:00 pm. Dinner will be served at 7:00.

The November meeting will be held on the 13th. It will consist of an address by the district engineer, U. S. Corps of Engineers, St. Louis, Mo., who will speak on "Flood Control Work on the Mississippi and Missouri rivers in the St. Louis Area." The social hour for this meeting

SNOWEEDER!

DESTROYS VEGETATION ON ROAD BEDS, EMBANKMENTS AND DITCHES — QUICKLY CLEARS SNOW FROM YARDS AND SWITCHES

THE FAMOUS WOOLERY MODEL C.O.E.

WOOLERY put its first weed burner in service on a major road in 1925. Today's advanced design, the model C.O.E., embodies every refinement made in more than 30 years of continuous improvement.

All Woolery design changes are for increased efficiency with no loss of simplicity . . . *no sacrifice of the famous Woolery easy maintenance features.*

- TORQUE CONVERTER drive on propelling engine.
- ELECTRIC IGNITION to all five firesist alloy steel burner heads. Burners can be used individually or all five together. Outer burners can be manipulated from cab while machine is in operation.
- ALL STEEL CAB. Doors fasten half-open to deflect heat and scoop in air.
- TWO BRAKING SYSTEMS. Power for service, manual for parking or emergency.
- CHOICE OF ENGINE MAKES . . . Also available in 3-burner, 2-burner or 1-burner models.

Literature and specifications on request.
Also manufacturers of Woolery Tie Cutters, Tie End Removers, Bolt Tighteners, Spike Drivers, Track Tool Transporters, Motor Cars and Joint Oilers.

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CampCars

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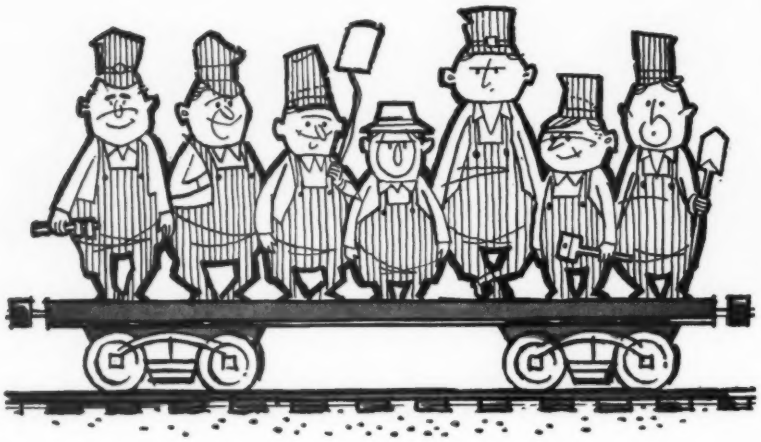


PROVIDE COMFORTABLE CAMPSITES RIGHT AT THE WORKSITE

Why run a costly commuter service for work crews? House anywhere from 2 to 50 men efficiently, comfortably in CampCars. Avoid the high cost of hotels and the headaches of on-track housing. CampCars will take the roughest highway or cross-country travel, are available in several floor plans. And the pay-off is this — *they can pay for themselves in approximately one year!*

Would you like the facts in dollars and cents — with pictures? Drop a line to International Car Division, 2485 Walden Avenue, Buffalo 25, N. Y.

INTERNATIONAL CAR DIVISION

A Subsidiary of Ryder System, Inc.

Association news (cont'd)

will commence at 5:30 pm. Dinner will be served at 6:30.

Both meetings will be held at the Louis IX Room, Fred Harvey's, Union Station, St. Louis.

Maintenance of Way Club of Chicago

The first meeting of the 1961-62 season will be held on October 23 at the Midland hotel, 172 W. Adams St., Chicago. The principal speaker will be C. J. Code, assistant chief engineer—staff, Pennsylvania, who will discuss "Wheel Loads and Car Design As They Affect Track." As usual, there will be a social hour, starting at 5:30 pm. Dinner will be served at 6:30.

Northwest Maintenance of Way Club

The first meeting of the 1961-62 season will be held on October 26 at Coleman's Restaurant, Ford Parkway, St. Paul, Minn. John P. Roebuck, Jr., vice president of sales, American Concrete Crosstie Corporation, will present a color motion picture on concrete-tie installations in the United States. Following the motion picture, Mr. Roebuck will speak on the advantages and disadvantages of concrete ties in present track-maintenance programs.

AREA liberalizes rules covering associate membership

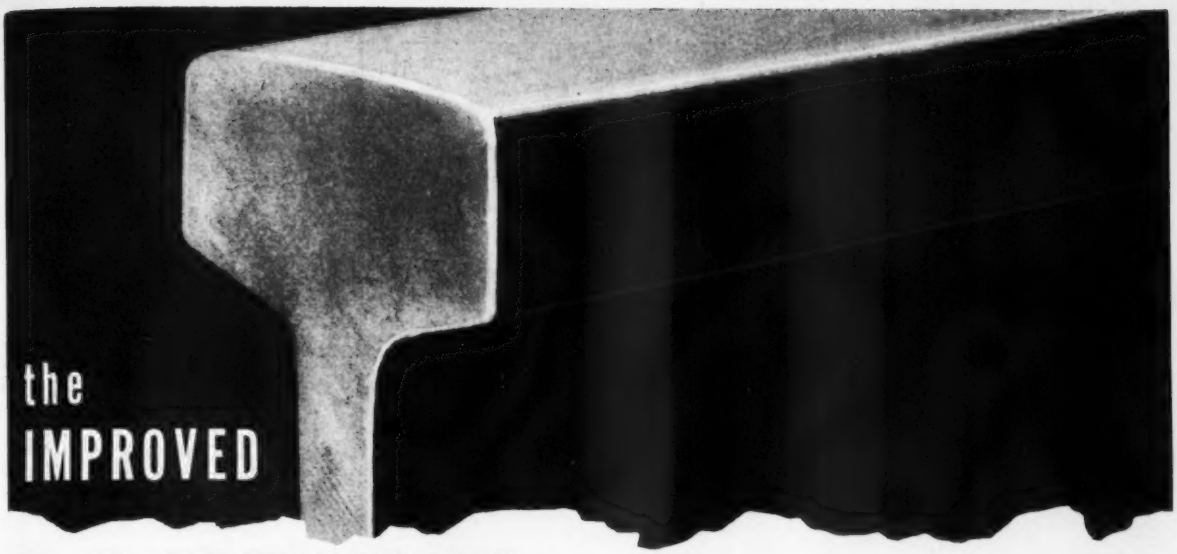
Members of the railway supply industry now may join the AREA as associate members if their sales responsibilities are 50 per cent or less of their total responsibilities. This ruling was made by the Board of Direction at its meeting in Chicago on August 11. According to Neal D. Howard, executive secretary of the association, it is a liberal interpretation of the constitution. Its purpose, said Mr. Howard, is to encourage membership of the "many railway supply men eminently qualified by training and experience to cooperate with members in the object of the association, but who are not qualified to become members."

The next meeting of the Board of Direction will be held on November 10 at association headquarters, Chicago.

The Nominating committee met at the Conrad Hilton hotel, Chicago, on September 18 under the direction of W. J. Hedley, chairman. Mr. Hedley is chief engineer of the Wabash, and a past president of the association. The committee nominated a slate of officers which will be announced on November 1.

A meeting of the officers, sub-committee chairmen and vice chairmen of the Committee on Convention Arrangements will be held in Chicago on November 9 at a location yet to be selected. At the meeting, preliminary plans for the 1½-day 1962 convention, to be held on March 9-10 at the Conrad Hilton hotel, will be made.

(*Continued on page 58*)



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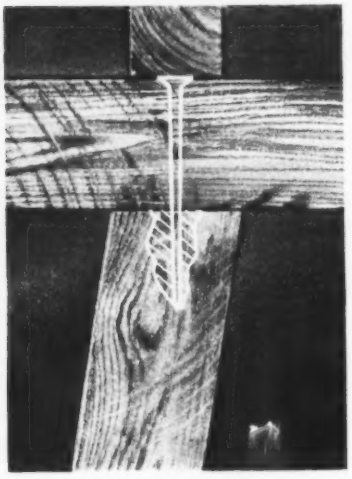
TROUBLE AHEAD

DRIFT PIN A-DRIFT



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Association news (cont'd)

Two standing committees have scheduled meetings to be held in October. They are: Iron and Steel Structures, October 25-26, Willard hotel, Washington, D. C.; and Cooperative Relations with Universities, October 27-28, University of Michigan, Ann Arbor, Mich.

Railway Tie Association

The annual convention of the association will be held on October 25-27 at the Rice hotel, Houston, Tex. Speakers on the program include G. M. Magee, director of engineering research, Association of American Railroads; R. H. Beeder, chief engineer, system, Santa Fe; R. B. Radkey, engineer, ties and treatment, Illinois Central; and M. H. Dick, vice president and editor, *Railway Track and Structures*.

Mr. Magee will speak on "Research Potentials for Treated Wood Crossties;" Mr. Beeder on "Mechanized Tie Handling on the Santa Fe;" Mr. Radkey on "Said the Track Man to the Tie Man;" and Mr. Dick on "Effect of CTC on Tie Requirements."

AT&SS elects new officers

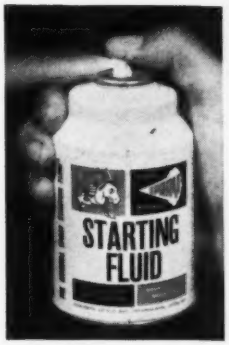
The annual meeting of the Association of Track and Structure Suppliers was held at the Conrad Hilton hotel, Chicago, on September 20. It took place on the last day of the concurrent annual conventions of the Roadmasters' and Bridge & Building Associations.

With President Ray T. Johnson, Jr. (Mid-West Forging & Manufacturing Co.) presiding, various items of business were given consideration. In the election of officers P. J. Wolf (Maintenance Equipment Company) was advanced from first vice president to president; H. R. Deubel (Chicago Pneumatic Tool Company) was promoted from second vice president to first vice president; A. L. Fridley (Unit Rail Anchor Corporation) was moved up from third vice president to second vice president; C. L. Rager (Fairmont Railway Motors, Inc.), treasurer, was elected third vice president; J. L. Beven, Jr. (Remington Arms, Inc.), secretary, was advanced to treasurer; and H. R. Miller (Linde Company), a director, was elected secretary.

Three directors were elected to serve three-year terms, as follows: G. F. Carpenter (Reade Manufacturing Company); John R. Thompson (*Railway Track and Structures*); and Robert Evans (Armco Drainage & Metal Products, Inc.), who was re-elected. In addition, James Treece (Binks Manufacturing Company) was elected a director to finish the unexpired term of Mr. Miller.

President Johnson explained that the exhibit planned for September 1962 will be held at McCormick Place, and expressed the hope that the Roadmasters' and Bridge & Building Associations will hold their meetings at the same location.

THE ORIGINAL SPRAY STARTING FLUID*



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Supply trade news

ACF INDUSTRIES—Robert R. Curtis has been appointed sales representative for railroad equipment in the St. Louis district for the American Car & Foundry Division, according to an announcement by **Charles F. Venrick,** director of marketing. Mr. Curtis succeeds **Walter H. Pogue** who resigned recently. He formerly was special representative to eastern railroads for Minnesota Mining & Manufacturing Co.

John M. Guidera, sales manager, Philadelphia district, AC&F Division, has been transferred to the New York district of the division, succeeding **Thomas A. Ballou** who has been promoted to manager of railway equipment sales. In his new position, Mr. Guidera will continue to serve Philadelphia accounts and, in addition, will be responsible for railroad accounts in New England and Canada.

CARTER-WATERS CORPORATION—Harold R. Hutchens, research engineer, has been promoted to general manager of the company's manufacturing facilities for concrete products at Kansas City, Mo.

O. F. JORDAN COMPANY—James P. Bowers, sales manager, East Chicago, Ind., has been elected vice president, effective September 1, according to an announcement by **John J. Dee,** vice president.

KOEHRING COMPANY—Southland Tractors, Inc., Memphis, Tenn., has been appointed distributor for the Koehring Division's complete line of crawler and rubber-tire mounted crane excavators, concrete pavers, Dumptors and Mud-Jacks in western Tennessee, eastern Arkansas and northwestern Mississippi. Sales and service will be handled from the distributor's headquarters at 105 S. Parkway W., Memphis 9.

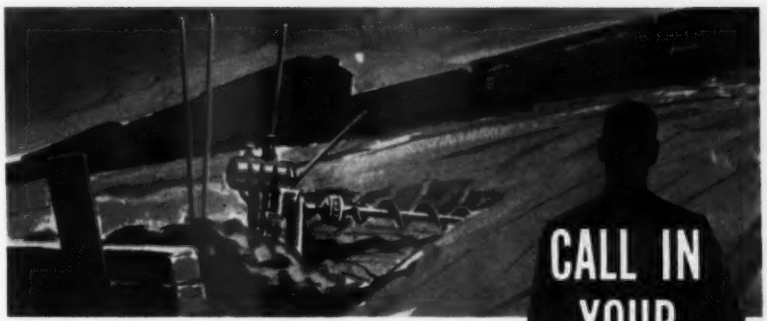
KWIK-MIX COMPANY—Highway Equipment Company, Cincinnati, Ohio, has been appointed exclusive distributor for the complete line of Ka-Mo boring and drilling equipment in southwestern Ohio. The new distributor also will serve the Cincinnati marketing area which includes northern Kentucky and southeastern Indiana. Highway Equipment maintains headquarters at 2150 Langdon Farm Road, Cincinnati, and a branch office at 4819 Airway Road, Dayton, Ohio.

REILLY TAR & CHEMICAL CORP.—George A. Reilly has been appointed vice president and general counsel of Reilly Tar & Chemical and general manager of the company's division, Republic Creosoting Company.

John M. Guidera
ACF Industries

Robert R. Curtis
ACF Industries

DRILLING PROBLEMS?



5-HP KA-MO DRILL drills horizontal 12", sixty-foot hole for "FRENCH-DRAIN." Drill motor is reversed when hole is completed, to convey sand, gravel and ballast for better drainage.

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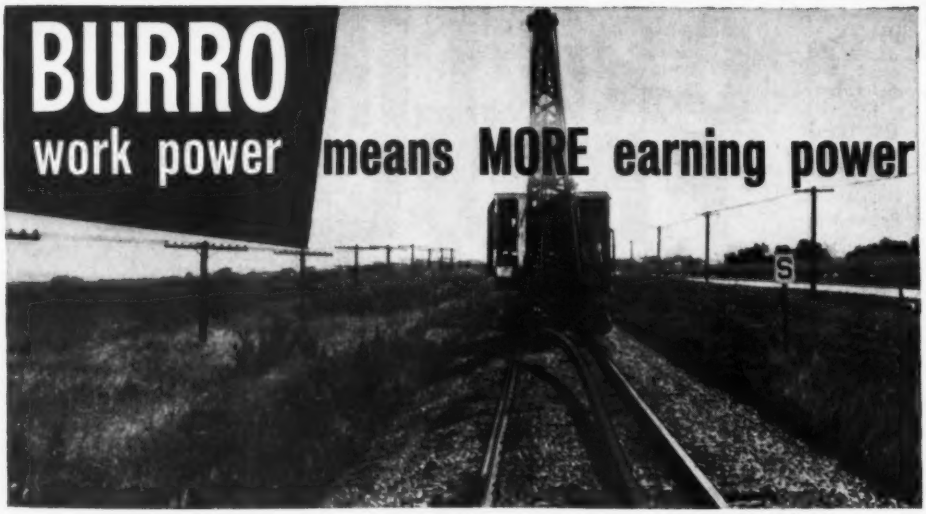

Burro Crane, with threader suspended from boom of the crane to guide the rail, shifting new welded rail from the shoulder to the center of track.

Model 40 Burro Locomotive Crane Ditcher with long digging radius to permit staring ditch ample distance from track. This Model 40 Burro not only digs ditch and loads both near and far ends of cars, but also hauls its own cars with its own power.

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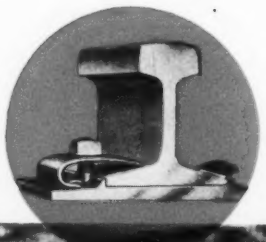
STOP Rail  Movement—Both Ways

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